

Sequence Listing

- <110> Ashkenazi, Avi J.  
Baker, Kevin P.  
Botstein, David  
Desnoyers, Luc  
Eaton, Dan L.  
Ferrara, Napoleone  
Fong, Sherman  
Gerber, Hanspeter  
Gerritsen, Mary E.  
Goddard, Audrey  
Godowski, Paul J.  
Grimaldi, J. Christopher  
Gurney, Austin L.  
Kljasin, Ivar J.  
Napier, Mary A.  
Pan, James  
Paoni, Nicholas F.  
Roy, Margaret Ann  
Stewart, Timothy A.  
Tumas, Daniel  
Watanabe, Colin K.  
Williams, P. Mickey  
Wood, William I.  
Zhang, Zemin
- <120> Secreted and Transmembrane Polypeptides and Nucleic  
Acids Encoding the Same
- <130> P2730P1C1
- <150> 60/049787  
<151> 1997-06-16
- <150> 60/062250  
<151> 1997-10-17
- <150> 60/065186  
<151> 1997-11-12
- <150> 60/065311  
<151> 1997-11-13
- <150> 60/066770  
<151> 1997-11-24
- <150> 60/075945  
<151> 1998-02-25
- <150> 60/078910  
<151> 1998-03-20
- <150> 60/083322  
<151> 1998-04-28
- <150> 60/084600  
<151> 1998-05-07

08220"266T4650

<150> 60/087106  
<151> 1998-05-28

<150> 60/087607  
<151> 1998-06-02

<150> 60/087609  
<151> 1998-06-02

<150> 60/087759  
<151> 1998-06-02

<150> 60/087827  
<151> 1998-06-03

<150> 60/088021  
<151> 1998-06-04

<150> 60/088025  
<151> 1998-06-04

<150> 60/088026  
<151> 1998-06-04

<150> 60/088028  
<151> 1998-06-04

<150> 60/088029  
<151> 1998-06-04

<150> 60/088030  
<151> 1998-06-04

<150> 60/088033  
<151> 1998-06-04

<150> 60/088326  
<151> 1998-06-04

<150> 60/088167  
<151> 1998-06-05

<150> 60/088202  
<151> 1998-06-05

<150> 60/088212  
<151> 1998-06-05

<150> 60/088217  
<151> 1998-06-05

<150> 60/088655  
<151> 1998-06-09

<150> 60/088734  
<151> 1998-06-10

<150> 60/088738

09041992 032301

<151> 1998-06-10

<150> 60/088742  
<151> 1998-06-10

<150> 60/088810  
<151> 1998-06-10

<150> 60/088824  
<151> 1998-06-10

<150> 60/088826  
<151> 1998-06-10

<150> 60/088858  
<151> 1998-06-11

<150> 60/088861  
<151> 1998-06-11

<150> 60/088876  
<151> 1998-06-11

<150> 60/089105  
<151> 1998-06-12

<150> 60/089440  
<151> 1998-06-16

<150> 60/089512  
<151> 1998-06-16

<150> 60/089514  
<151> 1998-06-16

<150> 60/089532  
<151> 1998-06-17

<150> 60/089538  
<151> 1998-06-17

<150> 60/089598  
<151> 1998-06-17

<150> 60/089599  
<151> 1998-06-17

<150> 60/089600  
<151> 1998-06-17

<150> 60/089653  
<151> 1998-06-17

<150> 60/089801  
<151> 1998-06-18

<150> 60/089907  
<151> 1998-06-18

103230-2667650

<150> 60/089908  
<151> 1998-06-18

<150> 60/089947  
<151> 1998-06-19

<150> 60/089948  
<151> 1998-06-19

<150> 60/089952  
<151> 1998-06-19

<150> 60/090246  
<151> 1998-06-22

<150> 60/090252  
<151> 1998-06-22

<150> 60/090254  
<151> 1998-06-22

<150> 60/090349  
<151> 1998-06-23

<150> 60/090355  
<151> 1998-06-23

<150> 60/090429  
<151> 1998-06-24

<150> 60/090431  
<151> 1998-06-24

<150> 60/090435  
<151> 1998-06-24

<150> 60/090444  
<151> 1998-06-24

<150> 60/090445  
<151> 1998-06-24

<150> 60/090472  
<151> 1998-06-24

<150> 60/090535  
<151> 1998-06-24

<150> 60/090540  
<151> 1998-06-24

<150> 60/090542  
<151> 1998-06-24

<150> 60/090557  
<151> 1998-06-24

<150> 60/090676



<151> 1998-06-25

<150> 60/090678  
<151> 1998-06-25

<150> 60/090690  
<151> 1998-06-25

<150> 60/090694  
<151> 1998-06-25

<150> 60/090695  
<151> 1998-06-25

<150> 60/090696  
<151> 1998-06-25

<150> 60/090862  
<151> 1998-06-26

<150> 60/090863  
<151> 1998-06-26

<150> 60/091360  
<151> 1998-07-01

<150> 60/091478  
<151> 1998-07-02

<150> 60/091544  
<151> 1998-07-01

<150> 60/091519  
<151> 1998-07-02

<150> 60/091626  
<151> 1998-07-02

<150> 60/091633  
<151> 1998-07-02

<150> 60/091978  
<151> 1998-07-07

<150> 60/091982  
<151> 1998-07-07

<150> 60/092182  
<151> 1998-07-09

<150> 60/092472  
<151> 1998-07-10

<150> 60/091628  
<151> 1998-07-20

<150> 60/091646  
<151> 1998-07-20

1998-08-26 14:09:09

<150> 60/091673  
<151> 1998-07-20

<150> 60/093339  
<151> 1998-07-20

<150> 60/094651  
<151> 1998-07-30

<150> 60/095282  
<151> 1998-08-04

<150> 60/095285  
<151> 1998-08-04

<150> 60/095302  
<151> 1998-08-04

<150> 60/095318  
<151> 1998-08-04

<150> 60/095321  
<151> 1998-08-04

<150> 60/095301  
<151> 1998-08-04

<150> 60/095325  
<151> 1998-08-04

<150> 60/095916  
<151> 1998-08-10

<150> 60/095929  
<151> 1998-08-10

<150> 60/096012  
<151> 1998-08-10

<150> 60/096143  
<151> 1998-08-11

<150> 60/096146  
<151> 1998-08-11

<150> 60/096329  
<151> 1998-08-12

<150> 60/096757  
<151> 1998-08-17

<150> 60/096766  
<151> 1998-08-17

<150> 60/096768  
<151> 1998-08-17

<150> 60/096773

<151> 1998-08-17

<150> 60/096791  
<151> 1998-08-17

<150> 60/096867  
<151> 1998-08-17

<150> 60/096891  
<151> 1998-08-17

<150> 60/096894  
<151> 1998-08-17

<150> 60/096895  
<151> 1998-08-17

<150> 60/096897  
<151> 1998-08-17

<150> 60/096949  
<151> 1998-08-18

<150> 60/096950  
<151> 1998-08-18

<150> 60/096959  
<151> 1998-08-18

<150> 60/096960  
<151> 1998-08-18

<150> 60/097022  
<151> 1998-08-18

<150> 60/097141  
<151> 1998-08-19

<150> 60/097218  
<151> 1998-08-20

<150> 60/097661  
<151> 1998-08-24

<150> 60/097952  
<151> 1998-08-26

<150> 60/097954  
<151> 1998-08-26

<150> 60/097955  
<151> 1998-08-26

<150> 60/098014  
<151> 1998-08-26

<150> 60/097971  
<151> 1998-08-26

09041992-082301

<150> 60/097974  
<151> 1998-08-26

<150> 60/097978  
<151> 1998-08-26

<150> 60/097986  
<151> 1998-08-26

<150> 60/097979  
<151> 1998-08-26

<150> 60/098525  
<151> 1998-08-31

<150> 60/100634  
<151> 1998-09-16

<150> 60/100858  
<151> 1998-09-17

<150> 60/113296  
<151> 1998-12-22

<150> 60/123957  
<151> 1999-03-12

<150> 60/141037  
<151> 1999-06-23

<150> 60/143048  
<151> 1999-07-07

<150> 60/144758  
<151> 1999-07-20

<150> 60/145698  
<151> 1999-07-26

<150> 60/146222  
<151> 1999-07-28

<150> 60/149396  
<151> 1999-08-17

<150> 60/158663  
<151> 1999-10-08

<150> 60/213637  
<151> 2000-06-23

<150> 60/230978  
<151> 2000-09-07

<150> 08/743698  
<151> 1996-11-06

<150> 08/876698

0941920201

<151> 1997-06-16

<150> 08/965056

<151> 1997-11-05

<150> 09/105413

<151> 1998-06-26

<150> 09/168978

<151> 1998-10-07

<150> 09/187368

<151> 1998-11-06

<150> 09/202054

<151> 1998-12-07

<150> 09/218517

<151> 1998-12-22

<150> 09/254311

<151> 1999-03-03

<150> 09/254460

<151> 1999-03-09

<150> 09/267213

<151> 1999-03-12

<150> 09/284291

<151> 1999-04-12

<150> 09/380137

<151> 1999-08-25

<150> 09/380138

<151> 1998-08-25

<150> 09/380139

<151> 1999-08-25

<150> 09/403296

<151> 1999-10-18

<150> 09/423844

<151> 1999-11-12

<150> 09/664610

<151> 2000-09-18

<150> 09/665350

<151> 2000-09-18

<150> 09/709238

<151> 2000-11-08

<150> 09/808689

<151> 2001-03-14

09/854816 2001-05-15

<150> 09/854816  
<151> 2001-05-15

<150> 09/866028  
<151> 2001-05-25

<150> 09/866034  
<151> 2001-05-25

<150> 09/872035  
<151> 2001-06-01

<150> 09/882636  
<151> 2001-06-14

<150> PCT/US97/20069  
<151> 1997-11-05

<150> PCT/US98/19330  
<151> 1998-09-16

<150> PCT/US98/19437  
<151> 1998-09-17

<150> PCT/US98/21141  
<151> 1998-10-07

<150> PCT/US98/25108  
<151> 1998-12-01

<150> PCT/US99/00106  
<151> 1999-01-05

<150> PCT/US99/05028  
<151> 1999-03-08

<150> PCT/US99/12252  
<151> 1999-06-02

<150> PCT/US99/21090  
<151> 1999-09-15

<150> PCT/US99/21547  
<151> 1999-09-15

<150> PCT/US99/28313  
<151> 1999-11-30

<150> PCT/US99/28301  
<151> 1999-12-01

<150> PCT/US99/28634  
<151> 1999-12-01

<150> PCT/US99/30095  
<151> 1999-12-16

<150> PCT/US99/30911



<150> PCT/US00/23522  
<151> 2000-08-23

<150> PCT/US00/23328  
<151> 2000-08-24

<150> PCT/US00/30952  
<151> 2000-11-08

<150> PCT/US00/32678  
<151> 2000-12-01

<150> PCT/US01/06520  
<151> 2001-02-28

<150> PCT/US01/17800  
<151> 2001-06-01

<150> PCT/US01/19692  
<151> 2001-06-20

<150> PCT/US01/21066  
<151> 2001-06-29

<150> PCT/US01/21735  
<151> 2001-07-09

<160> 532

<210> 1  
<211> 1943  
<212> DNA  
<213> Homo sapiens

<400> 1  
cggacgcgtg ggtgcgaggc gaaggtgacc ggggaccgag catttcagat 50  
ctgctcggta gacctggtgc accaccacca tgttggtgc aaggctggtg 100  
tgtctccgga cactaccttc tagggttttc caccagctt tcaccaaggc 150  
ctccccgtgt gtgaagaatt ccatcacgaa gaatcaatgg ctgttaacac 200  
ctagcagga atagccacc aaaacaagaa ttgggatccg gcgtgggaga 250  
actggccaag aactcaaaga ggcagcattg gaaccatcga tggaaaaaat 300  
atttaaaatt gatcagatgg gaagatgggt tgttgctgga ggggctgctg 350  
ttggtcttgg agcattgtgc tactatggct tgggactgtc taatgagatt 400  
ggagctattg aaaaggctgt aatttggcct cagtatgtca aggatagaat 450  
tcattccacc tatatgtact tagcaggag tattggttta acagctttgt 500  
ctgccatagc aatcagcaga acgcctgttc tcatgaactt catgatgaga 550  
ggctcttggg tgacaattgg tgtgaccttt gcagccatgg ttggagctgg 600



aatgctggta cgatcaatac catatgacca gagcccaggc ccaaagcatc 650  
 ttgcttggtt gctacattct ggtgtgatgg gtgcagtggg ggctcctctg 700  
 acaatattag ggggtcctct tctcatcaga gctgcatggg acacagctgg 750  
 cattgtggga ggctctcca ctgtggccat gtgtgcgccc agtgaaaagt 800  
 ttctgaacat ggggtgcacc ctgggagtgg gcctgggtct cgtctttgtg 850  
 tcctcattgg gatctatgtt tcttccacct accaccgtgg ctggtgccac 900  
 tctttactca gtggcaatgt acggtggatt agttcttttc agcatgttcc 950  
 ttctgtatga taccagaaa gtaatcaagc gtgcagaagt atcaccaatg 1000  
 tatggagtgc aaaaatatga tcccattaac tcgatgctga gtatctacat 1050  
 ggatacatta aatatattta tgcgagttgc aactatgctg gcaactggag 1100  
 gcaacagaaa gaaatgaagt gactcagctt ctggcttctc tgctacatca 1150  
 aatatcttgt ttaatggggc agatatgcat taaatagttt gtacaagcag 1200  
 ctttcgttga agtttagaag ataagaaaca tgtcatcata tttaaagtgt 1250  
 ccggtaatgt gatgcctcag gtctgccttt ttttctggag aataaatgca 1300  
 gtaatcctct ccaaataag cacacacatt ttcaattctc atgtttgagt 1350  
 gattttaaaa tgttttggtg aatgtgaaaa cttaaagtttg tgtcatgaga 1400  
 atgtaagtct tttttctact taaaatttta gtaggttcac tgagtaacta 1450  
 aaatttagca aacctgtgtt tgcataattt tttggagtgc agaataattgt 1500  
 aattaatgtc ataagtgatt tggagctttg gtaaagggac cagagagaag 1550  
 gagtcacctg cagtcttttg tttttttaa tacttagaac ttagcacttg 1600  
 tgttattgat tagtgaggag ccagtaagaa acatctgggt atttggaac 1650  
 aagtggctcat tgttacattc atttgctgaa cttaacaaaa ctgttcatcc 1700  
 tgaaacaggc acaggtgatg cattctcctg ctggtgcttc tcagtgtctc 1750  
 ctttccaata tagatgtggg catgtttgac ttgtacagaa tgттаatcat 1800  
 acagagaatc cttgatggaa ttatatatgt gtgttttact tttgaatgtt 1850  
 acaaaaggaa ataactttaa aactattctc aagagaaaat attcaaagca 1900  
 tgaaatatgt tgctttttcc agaatacaaa cagtatactc atg 1943

<210> 2  
 <211> 345  
 <212> PRT  
 <213> Homo sapiens

<400> 2

Met	Leu	Ala	Ala	Arg	Leu	Val	Cys	Leu	Arg	Thr	Leu	Pro	Ser	Arg	1	5	10	15
Val	Phe	His	Pro	Ala	Phe	Thr	Lys	Ala	Ser	Pro	Val	Val	Lys	Asn	20	25	30	
Ser	Ile	Thr	Lys	Asn	Gln	Trp	Leu	Leu	Thr	Pro	Ser	Arg	Glu	Tyr	35	40	45	
Ala	Thr	Lys	Thr	Arg	Ile	Gly	Ile	Arg	Arg	Gly	Arg	Thr	Gly	Gln	50	55	60	
Glu	Leu	Lys	Glu	Ala	Ala	Leu	Glu	Pro	Ser	Met	Glu	Lys	Ile	Phe	65	70	75	
Lys	Ile	Asp	Gln	Met	Gly	Arg	Trp	Phe	Val	Ala	Gly	Gly	Ala	Ala	80	85	90	
Val	Gly	Leu	Gly	Ala	Leu	Cys	Tyr	Tyr	Gly	Leu	Gly	Leu	Ser	Asn	95	100	105	
Glu	Ile	Gly	Ala	Ile	Glu	Lys	Ala	Val	Ile	Trp	Pro	Gln	Tyr	Val	110	115	120	
Lys	Asp	Arg	Ile	His	Ser	Thr	Tyr	Met	Tyr	Leu	Ala	Gly	Ser	Ile	125	130	135	
Gly	Leu	Thr	Ala	Leu	Ser	Ala	Ile	Ala	Ile	Ser	Arg	Thr	Pro	Val	140	145	150	
Leu	Met	Asn	Phe	Met	Met	Arg	Gly	Ser	Trp	Val	Thr	Ile	Gly	Val	155	160	165	
Thr	Phe	Ala	Ala	Met	Val	Gly	Ala	Gly	Met	Leu	Val	Arg	Ser	Ile	170	175	180	
Pro	Tyr	Asp	Gln	Ser	Pro	Gly	Pro	Lys	His	Leu	Ala	Trp	Leu	Leu	185	190	195	
His	Ser	Gly	Val	Met	Gly	Ala	Val	Val	Ala	Pro	Leu	Thr	Ile	Leu	200	205	210	
Gly	Gly	Pro	Leu	Leu	Ile	Arg	Ala	Ala	Trp	Tyr	Thr	Ala	Gly	Ile	215	220	225	
Val	Gly	Gly	Leu	Ser	Thr	Val	Ala	Met	Cys	Ala	Pro	Ser	Glu	Lys	230	235	240	
Phe	Leu	Asn	Met	Gly	Ala	Pro	Leu	Gly	Val	Gly	Leu	Gly	Leu	Val	245	250	255	
Phe	Val	Ser	Ser	Leu	Gly	Ser	Met	Phe	Leu	Pro	Pro	Thr	Thr	Val	260	265	270	
Ala	Gly	Ala	Thr	Leu	Tyr	Ser	Val	Ala	Met	Tyr	Gly	Gly	Leu	Val	275	280	285	

Leu	Phe	Ser	Met	Phe	Leu	Leu	Tyr	Asp	Thr	Gln	Lys	Val	Ile	Lys
				290					295					300
Arg	Ala	Glu	Val	Ser	Pro	Met	Tyr	Gly	Val	Gln	Lys	Tyr	Asp	Pro
				305					310					315
Ile	Asn	Ser	Met	Leu	Ser	Ile	Tyr	Met	Asp	Thr	Leu	Asn	Ile	Phe
				320					325					330
Met	Arg	Val	Ala	Thr	Met	Leu	Ala	Thr	Gly	Gly	Asn	Arg	Lys	Lys
				335					340					345

<210> 3  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 3  
 tgtaaaacga cggccagtta aatagacctg caattattaa tct 43

<210> 4  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 4  
 caggaaacag ctatgaccac ctgcacacct gcaaattccat t 41

<210> 5  
 <211> 3033  
 <212> DNA  
 <213> Homo sapiens

<400> 5  
 gaaggctgcc tcgctggtcc gaattcgggtg gcgccacgtc cgcccgtctc 50  
 cgccttctgc atcgcggtt cggcggttc cacctagaca cctaacagtc 100  
 gcggagccgg ccgcgtcgtg agggggtcgg cacggggagt cgggcggtct 150  
 tgtgcatctt ggctacctgt gggtcgaaga tgtcggacat cggagactgg 200  
 ttcaggagca tcccggcgat cacgcgctat tggttcgccg ccaccgtcgc 250  
 cgtgcccttg gtcggcaaac tcggcctcat cagcccggcc tacctcttcc 300  
 tctggcccga agccttcctt tatcgcttcc agatttggag gccaatcact 350  
 gccacctttt atttcctgt gggtcagga actggatttc tttatttgg 400  
 caatttatat ttcttatatc agtattctac gcgacttgaa acaggagctt 450

ttgatgggag gccagcagac tatttattca tgctcctctt taactggatt 500  
 tgcacgtga ttactggctt agcaatggat atgcagttgc tgatgattcc 550  
 tctgatcatg tcagtacttt atgtctgggc ccagctgaac agagacatga 600  
 ttgtatcatt ttggtttga acacgattta aggctgcta tttaccctgg 650  
 gttatccttg gattcaacta tatcatcgga ggctcggtta tcaatgagct 700  
 tattggaaat ctggttggac atctttattt tttcctaag ttcagatacc 750  
 caatggactt gggaggaaga aattttctat ccacacctca gtttttgtac 800  
 cgctggctgc ccagtaggag aggaggagta tcaggatttg gtgtgcccc 850  
 tgctagcatg aggcgagctg ctgatcagaa tggcggaggc gggagacaca 900  
 actggggcca gggctttcga cttggagacc agtgaagggg cggcctcggg 950  
 cagccgctcc tctcaagcca catttctcc cagtgcctggg tgcacttaac 1000  
 aactgcgttc tggctaacac tggttgacct gaccacact gaatgtagtc 1050  
 tttcagtacg agacaaagt tcttaaattc cgaagaaaaa tataagtgtt 1100  
 ccacaagttt cagattctc attcaagtcc ttactgctgt gaagaacaaa 1150  
 taccaactgt gcaaattgca aaactgacta cattttttgg tgtcttctct 1200  
 tctccccctt ccgtctgaat aatgggtttt agcgggtcct aatctgctgg 1250  
 cattgagctg gggctgggtc accaaacct tcccaaagg accttatctc 1300  
 tttcttgac acatgcctct ctcccacttt tcccaacccc cacatttgca 1350  
 actagaaaaa gttgcccata aaattgctct gcccttgaca ggttctgtta 1400  
 tttattgact ttgccaagg ctggtcacaa caatcatatt cacgttattt 1450  
 tccccctttg gtggcagaac tgttaccaat agggggagaa gacagccacg 1500  
 gatgaagcgt ttctcagctt ttggaattgc ttcgactgac atccgttggt 1550  
 aaccgtttgc cactcttcag atatttttta taaaaaagt accactgagt 1600  
 tcatgagggc cacagattgg ttattaatga gatacgaggg ttggtgctgg 1650  
 gtgtttgttt cctgagctaa gtgatcaaga ctgtagtgga gttgcagcta 1700  
 acatgggtta ggtttaaac atgggggatg caccctttg cgtttcatat 1750  
 gtagccctac tggctttgtg tagctggagt agttgggttg ctttgtgtta 1800  
 ggaggatcca gatcatgttg gctacagga gatgctctct ttgagaggtc 1850  
 ctgggcattg attccattt caatctcatt ctggatatgt gttcattgag 1900

taaaggagga gagaccctca tacgctatTT aaatgtcact tttttgccta 1950  
 tcccccgTTt tttggTcatg tttcaattaa ttgtgaggaa ggcgcagctc 2000  
 ctctctgcac gtagatcatt ttttaaagct aatgtaagca catctaaggg 2050  
 aataacatga ttttaaggTtg aaatggctTT agaatcattt gggTTtgagg 2100  
 gtgtgttatt ttgagTcatg aatgtacaag ctctgtgaat cagaccagct 2150  
 taaataccca cacctTTTTt tcgtaggtgg gcttttccta tcagagcttg 2200  
 gctcataacc aaataaagTt ttttgaaggc catggctTTt cacacagtta 2250  
 ttttatTTta tgacgttatc tgaaagcaga ctgttaggag cagtattgag 2300  
 tggctgtcac actTTtgaggc aactaaaaag gcttcaaacg ttttgatcag 2350  
 tttctTTtca ggaaacattg tgctctaaca gtatgactat tctttcccc 2400  
 actcttaaac agtgtgatgt gtgttatcct aggaaatgag agttggcaaa 2450  
 caacttctca ttttgaatag agtttgtgtg tacttctcca tatttaattt 2500  
 atatgataaa ataggtgggg agagtctgaa ccttaactgt catgttttgt 2550  
 tgttcatctg tggccacaat aaagtttact tgtaaaattt tagaggccat 2600  
 tactccaatt atgttgcacg tacactcatt gtacaggcgt ggagactcat 2650  
 tgtatgtata agaatatTTc tgacagtgag tgacccggag tctctggTgt 2700  
 accctcttac cagtcagctg cctgcgagca gtcattTTTT cctaaaggTt 2750  
 tacaagtatt tagaactTTt cagttcaggg caaaatgttc atgaagttat 2800  
 tcctcttaaa catggTtagg aagctgatga cgttattgat tttgtctgga 2850  
 ttatgtttct ggaataattt taccaaaaca agctatttga gttttgactt 2900  
 gacaaggcaa aacatgacag tggattctct ttacaaatgg aaaaaaaaaa 2950  
 tccttatTTt gtataaagga cttccctTTt tgtaaaactaa tcctttttat 3000  
 tggtaaaaat tgtaaattaa aatgtgcaac ttg 3033

<210> 6

<211> 251

<212> PRT

<213> Homo sapiens

<400> 6

Met	Ser	Asp	Ile	Gly	Asp	Trp	Phe	Arg	Ser	Ile	Pro	Ala	Ile	Thr
1				5				10					15	

Arg	Tyr	Trp	Phe	Ala	Ala	Thr	Val	Ala	Val	Pro	Leu	Val	Gly	Lys
				20				25					30	

Leu	Gly	Leu	Ile	Ser	Pro	Ala	Tyr	Leu	Phe	Leu	Trp	Pro	Glu	Ala	
				35					40					45	
Phe	Leu	Tyr	Arg	Phe	Gln	Ile	Trp	Arg	Pro	Ile	Thr	Ala	Thr	Phe	
				50					55					60	
Tyr	Phe	Pro	Val	Gly	Pro	Gly	Thr	Gly	Phe	Leu	Tyr	Leu	Val	Asn	
				65					70					75	
Leu	Tyr	Phe	Leu	Tyr	Gln	Tyr	Ser	Thr	Arg	Leu	Glu	Thr	Gly	Ala	
				80					85					90	
Phe	Asp	Gly	Arg	Pro	Ala	Asp	Tyr	Leu	Phe	Met	Leu	Leu	Phe	Asn	
				95					100					105	
Trp	Ile	Cys	Ile	Val	Ile	Thr	Gly	Leu	Ala	Met	Asp	Met	Gln	Leu	
				110					115					120	
Leu	Met	Ile	Pro	Leu	Ile	Met	Ser	Val	Leu	Tyr	Val	Trp	Ala	Gln	
				125					130					135	
Leu	Asn	Arg	Asp	Met	Ile	Val	Ser	Phe	Trp	Phe	Gly	Thr	Arg	Phe	
				140					145					150	
Lys	Ala	Cys	Tyr	Leu	Pro	Trp	Val	Ile	Leu	Gly	Phe	Asn	Tyr	Ile	
				155					160					165	
Ile	Gly	Gly	Ser	Val	Ile	Asn	Glu	Leu	Ile	Gly	Asn	Leu	Val	Gly	
				170					175					180	
His	Leu	Tyr	Phe	Phe	Leu	Met	Phe	Arg	Tyr	Pro	Met	Asp	Leu	Gly	
				185					190					195	
Gly	Arg	Asn	Phe	Leu	Ser	Thr	Pro	Gln	Phe	Leu	Tyr	Arg	Trp	Leu	
				200					205					210	
Pro	Ser	Arg	Arg	Gly	Gly	Val	Ser	Gly	Phe	Gly	Val	Pro	Pro	Ala	
				215					220					225	
Ser	Met	Arg	Arg	Ala	Ala	Asp	Gln	Asn	Gly	Gly	Gly	Gly	Arg	His	
				230					235					240	
Asn	Trp	Gly	Gln	Gly	Phe	Arg	Leu	Gly	Asp	Gln					
				245					250						

<210> 7  
 <211> 1373  
 <212> DNA  
 <213> Homo sapiens

<400> 7  
 ggggccgcgg tctagggcgg ctacgtgtgt tgccatagcg accattttgc 50  
 attaactggt tggtagcttc tatectgggg gctgagcgac tgcgggccag 100  
 ctcttccctt actccctctc ggctccttgt ggcccaaagg cctaaccggg 150  
 gtccggcggt ctggcctagg gatcttcccc gttgccctt tggggcgga 200

tggctgcgga agaagaagac gaggtggagt gggtagtgga gagcatcgcg 250  
 gggttcctgc gaggccaga ctgggccatc cccatcttgg actttgtgga 300  
 acagaaatgt gaagttaact gcaaaggagg gcatgtgata actccaggaa 350  
 gccagagcc ggtgattttg gtggcctgtg ttccccttgt ttttgatgat 400  
 gaagaagaaa gcaaattgac ctatacagag attcatcagg aatacaaaga 450  
 actagttaga aagctgttag aaggttacct caaagaaatt ggaattaatg 500  
 aagatcaatt tcaagaagca tgcacttctc ctcttgcaaa gaccataca 550  
 tcacaggcca ttttgcaacc tgtgttgga gcagaagatt ttactatctt 600  
 taaagcaatg atgggccaga aaaacattga aatgcagctg caagccattc 650  
 gaataattca agagagaaat ggtgtattac ctgactgctt aaccgatggc 700  
 tctgatgtgg tcagtgcact tgaacacgaa gagatgaaaa tcctgagga 750  
 agttcttaga aaatcaaaag aggaatatga ccaggaagaa gaaaggaaga 800  
 ggaaaaaaca gttatcagag gctaaaacag aagagcccac agtgcattcc 850  
 agtgaagctg caataatgaa taattcccaa ggggatgggtg aacattttgc 900  
 acacccaccc tcagaagtta aaatgcattt tgctaatacag tcaatagaac 950  
 ctttggaag aaaagtggaa aggtctgaaa cttcctccct cccacaaaaa 1000  
 ggctgaaga ttcttggtt agagcatgag agcattgaag gaccaatagc 1050  
 aaacttatca gtacttggaaga cagaagaact tcggcaacga gaacactatc 1100  
 tcaagcagaa gagagataag ttgatgtcca tgagaaagga tatgaggact 1150  
 aaacagatac aaaatatgga gcagaaagga aaaccactg gggaggtaga 1200  
 ggaaatgaca gagaaaccag aaatgacagc agaggagaag caaacattac 1250  
 taaagaggag attgcttgca gagaaactca aagaagaagt tattaataag 1300  
 taataattaa gaacaattta acaaaatgga agttcaaatt gtcttaaaaa 1350  
 taaattattt agtccttaca ctg 1373

<210> 8  
 <211> 367  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Met Ala Ala Glu Glu Glu Asp Glu Val Glu Trp Val Val Glu Ser  
 1 5 10 15  
 Ile Ala Gly Phe Leu Arg Gly Pro Asp Trp Ser Ile Pro Ile Leu

20										25					30				
Asp	Phe	Val	Glu	Gln	Lys	Cys	Glu	Val	Asn	Cys	Lys	Gly	Gly	His					
				35					40					45					
Val	Ile	Thr	Pro	Gly	Ser	Pro	Glu	Pro	Val	Ile	Leu	Val	Ala	Cys					
				50					55					60					
Val	Pro	Leu	Val	Phe	Asp	Asp	Glu	Glu	Glu	Ser	Lys	Leu	Thr	Tyr					
				65					70					75					
Thr	Glu	Ile	His	Gln	Glu	Tyr	Lys	Glu	Leu	Val	Glu	Lys	Leu	Leu					
				80					85					90					
Glu	Gly	Tyr	Leu	Lys	Glu	Ile	Gly	Ile	Asn	Glu	Asp	Gln	Phe	Gln					
				95					100					105					
Glu	Ala	Cys	Thr	Ser	Pro	Leu	Ala	Lys	Thr	His	Thr	Ser	Gln	Ala					
				110					115					120					
Ile	Leu	Gln	Pro	Val	Leu	Ala	Ala	Glu	Asp	Phe	Thr	Ile	Phe	Lys					
				125					130					135					
Ala	Met	Met	Val	Gln	Lys	Asn	Ile	Glu	Met	Gln	Leu	Gln	Ala	Ile					
				140					145					150					
Arg	Ile	Ile	Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr					
				155					160					165					
Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys					
				170					175					180					
Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln					
				185					190					195					
Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr					
				200					205					210					
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn					
				215					220					225					
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val					
				230					235					240					
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys					
				245					250					255					
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys					
				260					265					270					
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn					
				275					280					285					
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr					
				290					295					300					
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met					
				305					310					315					



Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr
				320					325					330
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu
				335					340					345
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu
				350					355					360
Lys	Glu	Glu	Val	Ile	Asn	Lys								
				365										

<210> 9  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<400> 9  
 gggcacagca catgtgaagt ttttgatgat gaagaagaaa gcaaattgac 50  
 ctatacagag attcatcagg aatacaaaga actagttgaa aagctgtag 100  
 aaggttacct caaagaaatt ggaattaatg aagatcaatt tcaagaagca 150  
 tgcacttctc ctcttgcaaa gacccataca tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat ttactatct ttaaagcaat gatggtccag 250  
 aaaaacattg aatgcagct gcaagccatt cgaataattc aagagagaaa 300  
 tgggtgatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
 ttgaacacga agagatgaaa atcctgaggg aagttcttag aaaatcaaaa 400  
 gaggaatatg accaggaa 418

<210> 10  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 10  
 ttgacctata cagagattca tc 22

<210> 11  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 11  
 ctaagaactt ccctcaggat ttt 23

<210> 12  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 12  
atgaagatca atttcaagaa gcatgcactt ctcctcttgc 40

<210> 13  
<211> 2886  
<212> DNA  
<213> Homo sapiens

<400> 13  
gcgtggtttt tgttctgcaa taggcggctt agagggaggg gctttttcgc 50  
ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 100  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 150  
cactagaagc tcttctgagg gaggttaatta aaaaacagtg gaatggaaaa 200  
acagtgtgt agtcacctg taatatgctc cttgtcaaca atgtatacat 250  
tcctgctagg tgccatattc attgctttaa gctcaagtcg catcttacta 300  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 350  
tgtgaatgtg tgctcagaac tggatgaagct agttttctgt gtgcttgtgt 400  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450  
tcctggaagg aattctctga ttcatgaag tggccattc ctgcctttct 500  
ttatttcctg gataacttga ttgtcttcta tgcctgtcc tatcttcaac 550  
cagccatggc tggtatcttc tcaaatttta gcattataac aacagctctt 600  
ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 650  
cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 700  
ctttacagca caacttggca ggacgtggat ttcatcacga tgcctttttc 750  
agcccttcca attcctgcct tcttttcaga agtgagtgtc ccagaaaaga 800  
caattgtaca gcaaaggaat ggacttttcc tgaagctaaa tggaacacca 850  
cagccagagt ttccagtcac atccgtcttg gcatgggcca tgttcttatt 900  
atagtccagt gttttatttc ttcaatggct aatatctata atgaaaagat 950  
actgaaggag gggaaccagc tcaactgaaag catcttcata cagaacagca 1000  
aactctatth ctttggcatt ctgtttaatg ggctgactct gggccttcag 1050

aggagtaacc gtgatcagat taagaactgt ggattttttt atggccacag 1100  
 tgcattttca gtagccctta tttttgtaac tgcattccag ggcctttcag 1150  
 tggctttcat tctgaagtgc ctggataaca tgttccatgt cttgatggcc 1200  
 caggttacca ctgtcattat cacaacagtg tctgtcctgg tctttgactt 1250  
 caggccctcc ctggaatttt tcttggaagc cccatcagtc cttctctcta 1300  
 tatttattta taatgccagc aagcctcaag ttccggaata cgcacctagg 1350  
 caagaaagga tccgagatct aagtggcaat ctttgggagc gttccagtgg 1400  
 ggatggagaa gaactagaaa gacttaccaa acccaagagt gatgagtcag 1450  
 atgaagatac tttctaactg gtaccacat agtttgcagc tctcttgaac 1500  
 cttattttca cattttcagt gtttgtaata tttatctttt cactttgata 1550  
 aaccagaaat gtttctaaat cctaatttc tttgcatata tctagctact 1600  
 ccctaaatgg ttccatccaa ggcttagagt acccaaaggc taagaaattc 1650  
 taaagaactg atacaggagt aacaatatga agaattcatt aatatctcag 1700  
 tacttgataa atcagaaagt tatatgtgca gattattttc cttggccttc 1750  
 aagcttccaa aaaacttgta ataatcatgt tagctatagc ttgtatatac 1800  
 acatagagat caatttgcca aatattcaca atcatgtagt tctagtttac 1850  
 atgccaaaagt cttccctttt taacattata aaagctaggt tgtctcttga 1900  
 attttgaggc cctagagata gtcattttgc aagtaaagag caacgggacc 1950  
 ctttctaaaa acgttggttg aaggacctaa atacctggcc ataccataga 2000  
 tttgggatga tgtagtctgt gctaaatatt ttgctgaaga agcagtttct 2050  
 cagacacaac atctcagaat tttaattttt agaaattcat gggaaattgg 2100  
 atttttgtaa taatcttttg atgttttaaa cattgggttc ctagtcacca 2150  
 tagttaccac ttgtatttta agtcatttaa acaagccacg gtggggcctt 2200  
 tttctctca gtttgaggag aaaaatcttg atgtcattac tcctgaatta 2250  
 ttacattttg gagaataaga gggcatttta ttttattagt tactaattca 2300  
 agctgtgact attgtatatc tttccaagag ttgaaatgct ggcttcagaa 2350  
 tcataccaga ttgtcagtga agctgatgcc taggaacttt taaagggatc 2400  
 ctttcaaaag gatcacttag caaacacatg ttgactttta actgatgtat 2450  
 gaatattaat actctaaaaa tagaaagacc agtaatatat aagtcacttt 2500

**0000000000000000000000000000000000**

<211> 424

<213> Homo sapiens

Met Glu Lys Gln Cys Cys Ser His Pro Val Ile Cys Ser Leu Ser  
1 5 10 15

Thr Met Tyr Thr Phe Leu Leu Gly Ala Ile Phe Ile Ala Leu Ser  
20 25 30

Ser Ser Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn  
35 40 45

Lys Tyr Asp Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu  
50 55 60

Val Lys Leu Val Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys  
65 70 75

Lys Asp His Gln Ser Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu  
80 85 90

Phe Ser Asp Phe Met Lys Trp Ser Ile Pro Ala Phe Leu Tyr Phe  
95 100 105

Leu Asp Asn Leu Ile Val Phe Tyr Val Leu Ser Tyr Leu Gln Pro  
110 115 120

Ala Met Ala Val Ile Phe Ser Asn Phe Ser Ile Ile Thr Thr Ala  
125 130 135

Leu Leu Phe Arg Ile Val Leu Lys Arg Arg Leu Asn Trp Ile Gln  
140 145 150

Trp Ala Ser Leu Leu Thr Leu Phe Leu Ser Ile Val Ala Leu Thr  
155 160 165

Ala Gly Thr Lys Thr Leu Gln His Asn Leu Ala Gly Arg Gly Phe  
170 175 180

His	His	Asp	Ala	Phe	Phe	Ser	Pro	Ser	Asn	Ser	Cys	Leu	Leu	Phe	
				185					190					195	
Arg	Ser	Glu	Cys	Pro	Arg	Lys	Asp	Asn	Cys	Thr	Ala	Lys	Glu	Trp	
				200					205					210	
Thr	Phe	Pro	Glu	Ala	Lys	Trp	Asn	Thr	Thr	Ala	Arg	Val	Phe	Ser	
				215					220					225	
His	Ile	Arg	Leu	Gly	Met	Gly	His	Val	Leu	Ile	Ile	Val	Gln	Cys	
				230					235					240	
Phe	Ile	Ser	Ser	Met	Ala	Asn	Ile	Tyr	Asn	Glu	Lys	Ile	Leu	Lys	
				245					250					255	
Glu	Gly	Asn	Gln	Leu	Thr	Glu	Ser	Ile	Phe	Ile	Gln	Asn	Ser	Lys	
				260					265					270	
Leu	Tyr	Phe	Phe	Gly	Ile	Leu	Phe	Asn	Gly	Leu	Thr	Leu	Gly	Leu	
				275					280					285	
Gln	Arg	Ser	Asn	Arg	Asp	Gln	Ile	Lys	Asn	Cys	Gly	Phe	Phe	Tyr	
				290					295					300	
Gly	His	Ser	Ala	Phe	Ser	Val	Ala	Leu	Ile	Phe	Val	Thr	Ala	Phe	
				305					310					315	
Gln	Gly	Leu	Ser	Val	Ala	Phe	Ile	Leu	Lys	Phe	Leu	Asp	Asn	Met	
				320					325					330	
Phe	His	Val	Leu	Met	Ala	Gln	Val	Thr	Thr	Val	Ile	Ile	Thr	Thr	
				335					340					345	
Val	Ser	Val	Leu	Val	Phe	Asp	Phe	Arg	Pro	Ser	Leu	Glu	Phe	Phe	
				350					355					360	
Leu	Glu	Ala	Pro	Ser	Val	Leu	Leu	Ser	Ile	Phe	Ile	Tyr	Asn	Ala	
				365					370					375	
Ser	Lys	Pro	Gln	Val	Pro	Glu	Tyr	Ala	Pro	Arg	Gln	Glu	Arg	Ile	
				380					385					390	
Arg	Asp	Leu	Ser	Gly	Asn	Leu	Trp	Glu	Arg	Ser	Ser	Gly	Asp	Gly	
				395					400					405	
Glu	Glu	Leu	Glu	Arg	Leu	Thr	Lys	Pro	Lys	Ser	Asp	Glu	Ser	Asp	
				410					415					420	
Glu	Asp	Thr	Phe												

<210> 15

<211> 755

<212> DNA

<213> Homo sapiens

<400> 15

cgtagctgctg caatgggtgt cgggtccgct ttttcccaat ccggacgtaa 50

tcgtgggtttt tgttctgcaa taggcggctt agagggaggg gctttttcgc 100  
ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 150  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 200  
cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 250  
acagtgcgtg agtcacctg taatatgctc cttgtcaaca atgtatacat 300  
tcctgctagg tgccatattc attgctttaa gctcaagtcg catcttacta 350  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 400  
tgtgaatgtg tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 450  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 500  
tcctggaagg aattctctga tttcatgaag tgggccattc ctgcctttct 550  
ttatttctg gataacttga ttgtcttcta tgtcctgtcc tatcttcaac 600  
cagccatggc tggtatcttc tcaaatttta gcattataac aacagctctt 650  
ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 700  
cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 750  
cttta 755

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttccagga 20

<210> 18  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18  
acagtgtgt agtcatcctg taatatgctc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19  
cggacgcgtg ggcggacgcg tgggcggacg cgtggggccg gcttggctag 50  
cgcgcgggcg ccgtggctaa ggctgctacg aagcgagctt gggaggagca 100  
gcggcctgcg gggcagagga gcatcccgctc taccaggtcc caagcggcgt 150  
ggcccgcggg tcatggccaa aggagaaggc gccgagagcg gctccgcggc 200  
ggggctgcta cccaccagca tcttccaaag cactgaacgc ccggcccagg 250  
tgaagaaaga accgaaaaag aagaaacaac agttgtctgt ttgcaacaag 300  
ctttgctatg cacttggggg agccccctac caggtgacgg gctgtgcct 350  
gggtttcttc cttcagatct acctattgga tgtggctcag gtgggcccct 400  
tctctgcctc catcatcctg tttgtgggcc gagcctggga tgccatcaca 450  
gacccccctg tgggcctctg catcagcaaa tccccctgga cctgcctggg 500  
tcgccttatg ccctggatca tcttctccac gccctggcc gtcattgcct 550  
acttctcat ctgggttcgtg cccgacttcc cacacggcca gacctattgg 600  
tacctgcttt tctattgcct ctttgaaaca atggtcacgt gtttccatgt 650  
tcctactcg gctctacca tgttcacag caaccgagca gactgagcgg 700  
gattctgcca ccgcctatcg gatgactgtg gaagtgtggt gcacagtgt 750  
gggcacggcg atccaggac aaatcgtggg ccaagcagac acgccttggt 800  
tccaggactt caatagctct acagtagctt cacaaagtgc caaccataca 850  
catggcacca cttcacacag ggaaacgcaa aaggcatacc tgctggcagc 900  
gggggtcatt gtctgtatct atataatctg tgctgtcatc ctgatcctgg 950  
gcgtgcggga gcagagagaa ccctatgaag ccagcagtc tgagccaatc 1000  
gcctacttcc ggggcctacg gctgggtcatg agccacggcc catacatcaa 1050  
acttattact ggcttctctt tcacctcctt ggctttcatg ctggtggagg 1100  
ggaactttgt cttgttttgc acctacacct tgggcttccg caatgaattc 1150  
cagaatctac tcctggccat catgctctcg gccactttaa ccattcccat 1200

ctggcagtgg ttcttgaccc ggtttggcaa gaagacagct gtatatgttg 1250  
 ggatctcatc agcagtgccca tttctcatct tggtgccct catggagagt 1300  
 aacctcatca ttacatatgc ggtagctgtg gcagctggca tcagtgtggc 1350  
 agctgccttc ttactaccct ggtccatgct gcctgatgtc attgacgact 1400  
 tccatctgaa gcagccccac ttccatggaa ccgagcccat cttcttctcc 1450  
 ttctatgtct tcttcaccaa gtttgctct ggagtgtcac tgggcatttc 1500  
 taccctcagt ctggactttg cagggtagca gaccctggc tgctcgcagc 1550  
 cggaacgtgt caagtttaca ctgaacatgc tcgtgaccat ggctcccata 1600  
 gttctcatcc tgctgggcct gctgctcttc aaaatgtacc ccattgatga 1650  
 ggagaggcgg cggcagaata agaaggccct gcaggcactg agggacgagg 1700  
 ccagcagctc tggctgctca gaaacagact ccacagagct ggctagcatc 1750  
 ctctagggcc cgccacgttg cccgaagcca ccatgcagaa ggccacagaa 1800  
 gggatcagga cctgtctgcc ggcttgctga gcagctggac tgcaggtgct 1850  
 aggaagggaa ctgaagactc aaggaggtgg cccaggacac ttgctgtgct 1900  
 cactgtgggg ccggctgctc tgtggcctcc tgctccct ctgctgct 1950  
 gtggggccaa gccctggggc tgccactgtg aatatgccaa ggactgatcg 2000  
 ggctagccc ggaacactaa tgtagaaacc ttttttttac agagccta 2050  
 taataactta atgactgtgt acatagcaat gtgtgtgtat gtatatgtct 2100  
 gtgagctatt aatgttatta attttcataa aagctggaaa gc 2142

<210> 20  
 <211> 458  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Trp Leu Arg Trp Ala Leu Ser Leu Pro Pro Ser Ser Cys Leu  
 1 5 10 15  
 Trp Ala Glu Pro Gly Met Pro Ser Gln Thr Pro Trp Trp Ala Ser  
 20 25 30  
 Ala Ser Ala Asn Pro Pro Gly Pro Ala Trp Val Ala Leu Cys Pro  
 35 40 45  
 Gly Ser Ser Ser Pro Arg Pro Trp Pro Ser Leu Pro Thr Ser Ser  
 50 55 60  
 Ser Gly Ser Cys Pro Thr Ser His Thr Ala Arg Pro Ile Gly Thr  
 65 70 75



Cys	Phe	Ser	Ile	Ala	Ser	Leu	Lys	Gln	Trp	Ser	Arg	Val	Ser	Met	
				80					85					90	
Phe	Pro	Thr	Arg	Leu	Ser	Pro	Cys	Ser	Ser	Ala	Thr	Glu	Gln	Thr	
				95					100					105	
Glu	Arg	Asp	Ser	Ala	Thr	Ala	Tyr	Arg	Met	Thr	Val	Glu	Val	Leu	
				110					115					120	
Gly	Thr	Val	Leu	Gly	Thr	Ala	Ile	Gln	Gly	Gln	Ile	Val	Gly	Gln	
				125					130					135	
Ala	Asp	Thr	Pro	Cys	Phe	Gln	Asp	Phe	Asn	Ser	Ser	Thr	Val	Ala	
				140					145					150	
Ser	Gln	Ser	Ala	Asn	His	Thr	His	Gly	Thr	Thr	Ser	His	Arg	Glu	
				155					160					165	
Thr	Gln	Lys	Ala	Tyr	Leu	Leu	Ala	Ala	Gly	Val	Ile	Val	Cys	Ile	
				170					175					180	
Tyr	Ile	Ile	Cys	Ala	Val	Ile	Leu	Ile	Leu	Gly	Val	Arg	Glu	Gln	
				185					190					195	
Arg	Glu	Pro	Tyr	Glu	Ala	Gln	Gln	Ser	Glu	Pro	Ile	Ala	Tyr	Phe	
				200					205					210	
Arg	Gly	Leu	Arg	Leu	Val	Met	Ser	His	Gly	Pro	Tyr	Ile	Lys	Leu	
				215					220					225	
Ile	Thr	Gly	Phe	Leu	Phe	Thr	Ser	Leu	Ala	Phe	Met	Leu	Val	Glu	
				230					235					240	
Gly	Asn	Phe	Val	Leu	Phe	Cys	Thr	Tyr	Thr	Leu	Gly	Phe	Arg	Asn	
				245					250					255	
Glu	Phe	Gln	Asn	Leu	Leu	Leu	Ala	Ile	Met	Leu	Ser	Ala	Thr	Leu	
				260					265					270	
Thr	Ile	Pro	Ile	Trp	Gln	Trp	Phe	Leu	Thr	Arg	Phe	Gly	Lys	Lys	
				275					280					285	
Thr	Ala	Val	Tyr	Val	Gly	Ile	Ser	Ser	Ala	Val	Pro	Phe	Leu	Ile	
				290					295					300	
Leu	Val	Ala	Leu	Met	Glu	Ser	Asn	Leu	Ile	Ile	Thr	Tyr	Ala	Val	
				305					310					315	
Ala	Val	Ala	Ala	Gly	Ile	Ser	Val	Ala	Ala	Ala	Phe	Leu	Leu	Pro	
				320					325					330	
Trp	Ser	Met	Leu	Pro	Asp	Val	Ile	Asp	Asp	Phe	His	Leu	Lys	Gln	
				335					340					345	
Pro	His	Phe	His	Gly	Thr	Glu	Pro	Ile	Phe	Phe	Ser	Phe	Tyr	Val	
				350					355					360	
Phe	Phe	Thr	Lys	Phe	Ala	Ser	Gly	Val	Ser	Leu	Gly	Ile	Ser	Thr	

365	370	375
Leu Ser Leu Asp Phe Ala Gly Tyr Gln Thr Arg Gly Cys Ser Gln		
380	385	390
Pro Glu Arg Val Lys Phe Thr Leu Asn Met Leu Val Thr Met Ala		
395	400	405
Pro Ile Val Leu Ile Leu Leu Gly Leu Leu Leu Phe Lys Met Tyr		
410	415	420
Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln		
425	430	435
Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp		
440	445	450
Ser Thr Glu Leu Ala Ser Ile Leu		
455		

<210> 21  
 <211> 571  
 <212> DNA  
 <213> Homo sapiens

<400> 21  
 gggaaacgca aaaggcatac ctgctggcag cgggggtcat tgtctgtatc 50  
 tatataatct gtgctgtcat cctgactctg ggcgtgcggg agcagagaga 100  
 accctatgaa gccagcagt ctgagccaat cgcctacttc cggggcctac 150  
 ggctgggtcat gagccacggc ccatacatca aacttattac tggcttcctc 200  
 ttcacctcct tggttttcat gctgggtggag gggaactttg tcttgttttg 250  
 cacctacacc ttgggcttcc gcaatgaatt ccagaatcta ctctggcca 300  
 tcatgctctc ggccacttta accattccca tctggcagtg gttcttgacc 350  
 cggtttggca agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
 atttctcatc ttggtggccc tcatggagag taacctcatc attacatatg 450  
 cggtagctgt ggcagctggc atcagtgtgg cagctgcctt cttactaccc 500  
 tgggccatgc tgcctgatgt cattgacgac ttccatctga agcagcccca 550  
 cttccatgga accgagccca t 571

<210> 22  
 <211> 1173  
 <212> DNA  
 <213> Homo sapiens

<400> 22  
 ggggcttcgg cgccagcggc cagcgctagt cggctctggta aggatttaca 50

aaaggtgcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
aaacagaaaa cctgttagaa atgtggtggt ttcagcaagg cctcagtttc 150  
cttccttcag cccttgtaat ttggacatct gctgctttca tattttcata 200  
cattactgca gtaacactcc accatataga cccggcttta ccttatatca 250  
gtgacactgg tacagtagct ccagaaaaat gcttatttgg ggcaatgcta 300  
aatattgcgg cagttttatg cattgctacc atttatgttc gttataagca 350  
agttcatgct ctgagtcctg aagagaacgt tatcatcaaa ttaaacaagg 400  
ctggccttgt acttggaata ctgagttggt taggactttc tattgtggca 450  
aacttcaga aaacaaccct ttttgctgca catgtaagtg gagctgtgct 500  
tacctttggg atgggctcat tatatatgtt tgttcagacc atcctttcct 550  
accaaagca gcccaaatc catggcaaac aagtcttctg gatcagactg 600  
ttgttggtta tctggtgtgg agtaagtga cttagcatgc tgacttgctc 650  
atcagttttg cacagtggca attttgggac tgatttagaa cagaaactcc 700  
attggaaccg cgaggacaaa gggtatgtgc ttcacatgat cactactgca 750  
gcagaatggg ctatgtcatt ttccttcttt ggttttttcc tgacttacat 800  
tcgtgatttt cagaaaattt ctttacgggt ggaagccaat ttacatggat 850  
taaccctcta tgacactgca ccttgcccta ttaacaatga acgaacacgg 900  
ctactttcca gagatatttg atgaaaggat aaaatatttc tgtaatgatt 950  
atgattctca gggattgggg aaagggtcac agaagttgct tattcttctc 1000  
tgaaattttc aaccacttaa tcaaggctga cagtaacact gatgaatgct 1050  
gataatcagg aaacatgaaa gaagccattt gatagattat tctaaaggat 1100  
atcatcaaga agactattaa aaacacctat gcctatactt ttttatctca 1150  
gaaaataaag tcaaaagact atg 1173

<210> 23  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 23  
Met Trp Trp Phe Gln Gln Gly Leu Ser Phe Leu Pro Ser Ala Leu  
1 5 10 15  
Val Ile Trp Thr Ser Ala Ala Phe Ile Phe Ser Tyr Ile Thr Ala  
20 25 30

Val	Thr	Leu	His	His	Ile	Asp	Pro	Ala	Leu	Pro	Tyr	Ile	Ser	Asp	
				35					40					45	
Thr	Gly	Thr	Val	Ala	Pro	Glu	Lys	Cys	Leu	Phe	Gly	Ala	Met	Leu	
				50					55					60	
Asn	Ile	Ala	Ala	Val	Leu	Cys	Ile	Ala	Thr	Ile	Tyr	Val	Arg	Tyr	
				65					70					75	
Lys	Gln	Val	His	Ala	Leu	Ser	Pro	Glu	Glu	Asn	Val	Ile	Ile	Lys	
				80					85					90	
Leu	Asn	Lys	Ala	Gly	Leu	Val	Leu	Gly	Ile	Leu	Ser	Cys	Leu	Gly	
				95					100					105	
Leu	Ser	Ile	Val	Ala	Asn	Phe	Gln	Lys	Thr	Thr	Leu	Phe	Ala	Ala	
				110					115					120	
His	Val	Ser	Gly	Ala	Val	Leu	Thr	Phe	Gly	Met	Gly	Ser	Leu	Tyr	
				125					130					135	
Met	Phe	Val	Gln	Thr	Ile	Leu	Ser	Tyr	Gln	Met	Gln	Pro	Lys	Ile	
				140					145					150	
His	Gly	Lys	Gln	Val	Phe	Trp	Ile	Arg	Leu	Leu	Leu	Val	Ile	Trp	
				155					160					165	
Cys	Gly	Val	Ser	Ala	Leu	Ser	Met	Leu	Thr	Cys	Ser	Ser	Val	Leu	
				170					175					180	
His	Ser	Gly	Asn	Phe	Gly	Thr	Asp	Leu	Glu	Gln	Lys	Leu	His	Trp	
				185					190					195	
Asn	Pro	Glu	Asp	Lys	Gly	Tyr	Val	Leu	His	Met	Ile	Thr	Thr	Ala	
				200					205					210	
Ala	Glu	Trp	Ser	Met	Ser	Phe	Ser	Phe	Phe	Gly	Phe	Phe	Leu	Thr	
				215					220					225	
Tyr	Ile	Arg	Asp	Phe	Gln	Lys	Ile	Ser	Leu	Arg	Val	Glu	Ala	Asn	
				230					235					240	
Leu	His	Gly	Leu	Thr	Leu	Tyr	Asp	Thr	Ala	Pro	Cys	Pro	Ile	Asn	
				245					250					255	
Asn	Glu	Arg	Thr	Arg	Leu	Leu	Ser	Arg	Asp	Ile					
				260					265						

<210> 24  
 <211> 485  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 14, 484  
 <223> unknown base

<400> 24  
 cggacgcttg ggngcgcca gcggccagcg ctagtcggtc tggtaagtgc 50  
 ctgatgccga gttccgtctc tcgggtcttt tcctgggtccc aggcaaagcg 100  
 gagcggagat cctcaaacgg cctagtgtt cgcgcttccg gagaaaatca 150  
 gcggtctaata taattcctct ggtttggtga agcagttacc aagaatcttc 200  
 aaccctttcc cacaaaagct aattgagtag acgttcctgt tgagtacacg 250  
 ttctgttgga ttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
 attttgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtggtttca 350  
 gcaaggcctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
 ctttcatatt ttcatacatt actgcagtaa cactccacca tatagaccg 450  
 gctttacctt atatcagtga cactgggtaca gtanc 485

<210> 25  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 25  
 acctgttaga aatgtggtgg tttcagcaag gcctcagttt 40

<210> 26  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 26  
 ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
 <211> 1399  
 <212> DNA  
 <213> Homo sapiens

<400> 27  
 cccacgcgtc cgcccgccgc tgcgtcccgg agtgcaagtg agcttctcgg 50  
 ctgccccgcg ggccgggggtg cggagccgac atgcgcccgc ttctcggcct 100  
 ccttctgggtc ttcgccggct gcaccttcgc cttgtacttg ctgtcgacgc 150  
 gactgccccg cgggcggaga ctgggctcca ccgaggaggc tggaggcagg 200  
 tcgctgtggt tcccctccga cctggcagag ctgcgggagc tctctgaggt 250

ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
 gcggcgcccta cctctacaaa cagggctttg ccatccccgg ctccagcttc 350  
 ctgaatgttt tagctgggtgc cttgtttggg ccatggctgg ggcttctgct 400  
 gtgctgtgtg ttgacctcgg tgggtgccac atgctgctac ctgctctcca 450  
 gtatttttgg caaacagtgt gtggtgtcct actttcctga taaagtggcc 500  
 ctgctgcaga gaaaggtgga ggagaacaga aacagcttgt ttttttctt 550  
 attgtttttg agacttttcc ccatgacacc aaactgggtc ttgaacctct 600  
 cggccccaat tctgaacatt cccatcgtgc agttcttctt ctgagttctt 650  
 atcgggttga tcccatataa tttcatctgt gtgcagacag ggtccatcct 700  
 gtcaacccta acctctctgg atgctctttt ctctggggac actgtcttta 750  
 agctgttggc cattgccatg gtggcattaa ttcttgggaac cctcattaaa 800  
 aaatttagtc agaaacatct gcaattgaat gaaacaagta ctgctaata 850  
 tatacacagt agaaaagaca catgatctgg attttctgtt tgccacatcc 900  
 ctggactcag ttgcttattt gtgtaatgga tgtggtcctc taaagcccct 950  
 cattgttttt gattgccttc tataggtgat gtggacactg tgcataatg 1000  
 tgcagtgtct tttcagaaaag gacactctgc tcttgaagggt gtattacatc 1050  
 aggttttcaa accagccctg gtgtagcaga cactgcaaca gatgcctcct 1100  
 agaaaatgct gtttgtggcc gggcgcggtg gctcacgcct gtaatcccag 1150  
 cactttggga ggccgaggcc ggtgattcac aaggtcagga gttcaagacc 1200  
 agcctggcca agatggtgaa atcctgtctc taataaaaat acaaaaatta 1250  
 gccaggcgtg gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgagcgt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
 Met Arg Pro Leu Leu Gly Leu Leu Leu Val Phe Ala Gly Cys Thr  
 1 5 10 15  
 Phe Ala Leu Tyr Leu Leu Ser Thr Arg Leu Pro Arg Gly Arg Arg  
 20 25 30

Leu Gly Ser Thr Glu Glu Ala Gly Gly Arg Ser Leu Trp Phe Pro  
 35 40 45  
 Ser Asp Leu Ala Glu Leu Arg Glu Leu Ser Glu Val Leu Arg Glu  
 50 55 60  
 Tyr Arg Lys Glu His Gln Ala Tyr Val Phe Leu Leu Phe Cys Gly  
 65 70 75  
 Ala Tyr Leu Tyr Lys Gln Gly Phe Ala Ile Pro Gly Ser Ser Phe  
 80 85 90  
 Leu Asn Val Leu Ala Gly Ala Leu Phe Gly Pro Trp Leu Gly Leu  
 95 100 105  
 Leu Leu Cys Cys Val Leu Thr Ser Val Gly Ala Thr Cys Cys Tyr  
 110 115 120  
 Leu Leu Ser Ser Ile Phe Gly Lys Gln Leu Val Val Ser Tyr Phe  
 125 130 135  
 Pro Asp Lys Val Ala Leu Leu Gln Arg Lys Val Glu Glu Asn Arg  
 140 145 150  
 Asn Ser Leu Phe Phe Phe Leu Leu Phe Leu Arg Leu Phe Pro Met  
 155 160 165  
 Thr Pro Asn Trp Phe Leu Asn Leu Ser Ala Pro Ile Leu Asn Ile  
 170 175 180  
 Pro Ile Val Gln Phe Phe Phe Ser Val Leu Ile Gly Leu Ile Pro  
 185 190 195  
 Tyr Asn Phe Ile Cys Val Gln Thr Gly Ser Ile Leu Ser Thr Leu  
 200 205 210  
 Thr Ser Leu Asp Ala Leu Phe Ser Trp Asp Thr Val Phe Lys Leu  
 215 220 225  
 Leu Ala Ile Ala Met Val Ala Leu Ile Pro Gly Thr Leu Ile Lys  
 230 235 240  
 Lys Phe Ser Gln Lys His Leu Gln Leu Asn Glu Thr Ser Thr Ala  
 245 250 255  
 Asn His Ile His Ser Arg Lys Asp Thr  
 260

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
 ccgaggcggg aggagcccga gggggcgaga gccccgcatg aatcattgta 50  
 gtcaatcatt ttccagttct cagccgctca gttgtgatca agggacacgt 100

ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tggaagacat ggatcttgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggt gagacagacc ggccatcagt gtggcatgtc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctcagagacc cccccgcag tatcctctcc ttatagttgt gtataagggt 350  
 ctgcgaacct tgggattaat cttgctcact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgtt ttctggagct cacacctggc 450  
 gctcactcat ccatcacatt aggctgatgt ccttgcccat tgccaagaag 500  
 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
 accctttcca gactttgacc cctggtggac aaacgactgt gagcagaatg 600  
 agtcagagcc cattcctgcc aactgcactg gctgtgcca gaaacacctg 650  
 aagggtgatgc tcctggaaga cgccccaagg aaatttgaga ggctccatcc 700  
 actggtgatc aagacgggaa agcccctgtt ggaggaagag attcagcatt 750  
 ttttgtgcca gtaccctgag gcgacagaag gcttctctga agggtttttc 800  
 gccaaagtgtt ggcgctgctt tcctgagcgg tggttcccat ttccttatcc 850  
 atggaggaga cctctgaaca gatcacaaat gttacgtgag ctttttctctg 900  
 ttttactca cctgccattt caaaagatg cctctttaa caagtgtctc 950  
 tttcttcacc cagaacctgt tgtggggagt aagatgcata agatgcctga 1000  
 cctatttatc attggcagcg gtgaggccat gttgcagctc atccctccct 1050  
 tccagtgccg aagacattgt cagtctgtgg ccatgccaat agagccaggg 1100  
 gatatcggct atgtcgacac caccactgg aaggtctacg ttatagccag 1150  
 aggggtccag cctttggtca tctgcgatgg aaccgctttc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccagggt 1250  
 gaaaggggaa aaataaaaac aaaaacgatg aaactgcaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Asp Leu Ala Ala Asn Glu Ile Ser Ile Tyr Asp Lys Leu Ser  
 1 5 10 15  
 Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met



	20		25		30									
Ser	Glu	Lys	Ala	Ile	Glu	Lys	Phe	Ile	Arg	Gln	Leu	Leu	Glu	Lys
	35				40									45
Asn	Glu	Pro	Gln	Arg	Pro	Pro	Pro	Gln	Tyr	Pro	Leu	Leu	Ile	Val
	50								55					60
Val	Tyr	Lys	Val	Leu	Ala	Thr	Leu	Gly	Leu	Ile	Leu	Leu	Thr	Ala
	65								70					75
Tyr	Phe	Val	Ile	Gln	Pro	Phe	Ser	Pro	Leu	Ala	Pro	Glu	Pro	Val
	80								85					90
Leu	Ser	Gly	Ala	His	Thr	Trp	Arg	Ser	Leu	Ile	His	His	Ile	Arg
	95								100					105
Leu	Met	Ser	Leu	Pro	Ile	Ala	Lys	Lys	Tyr	Met	Ser	Glu	Asn	Lys
	110								115					120
Gly	Val	Pro	Leu	His	Gly	Gly	Asp	Glu	Asp	Arg	Pro	Phe	Pro	Asp
	125								130					135
Phe	Asp	Pro	Trp	Trp	Thr	Asn	Asp	Cys	Glu	Gln	Asn	Glu	Ser	Glu
	140								145					150
Pro	Ile	Pro	Ala	Asn	Cys	Thr	Gly	Cys	Ala	Gln	Lys	His	Leu	Lys
	155								160					165
Val	Met	Leu	Leu	Glu	Asp	Ala	Pro	Arg	Lys	Phe	Glu	Arg	Leu	His
	170								175					180
Pro	Leu	Val	Ile	Lys	Thr	Gly	Lys	Pro	Leu	Leu	Glu	Glu	Glu	Ile
	185								190					195
Gln	His	Phe	Leu	Cys	Gln	Tyr	Pro	Glu	Ala	Thr	Glu	Gly	Phe	Ser
	200								205					210
Glu	Gly	Phe	Phe	Ala	Lys	Trp	Trp	Arg	Cys	Phe	Pro	Glu	Arg	Trp
	215								220					225
Phe	Pro	Phe	Pro	Tyr	Pro	Trp	Arg	Arg	Pro	Leu	Asn	Arg	Ser	Gln
	230								235					240
Met	Leu	Arg	Glu	Leu	Phe	Pro	Val	Phe	Thr	His	Leu	Pro	Phe	Pro
	245								250					255
Lys	Asp	Ala	Ser	Leu	Asn	Lys	Cys	Ser	Phe	Leu	His	Pro	Glu	Pro
	260								265					270
Val	Val	Gly	Ser	Lys	Met	His	Lys	Met	Pro	Asp	Leu	Phe	Ile	Ile
	275								280					285
Gly	Ser	Gly	Glu	Ala	Met	Leu	Gln	Leu	Ile	Pro	Pro	Phe	Gln	Cys
	290								295					300
Arg	Arg	His	Cys	Gln	Ser	Val	Ala	Met	Pro	Ile	Glu	Pro	Gly	Asp
	305								310					315

Ile Gly Tyr Val Asp Thr Thr His Trp Lys Val Tyr Val Ile Ala  
 320 325 330

Arg Gly Val Gln Pro Leu Val Ile Cys Asp Gly Thr Ala Phe Ser  
 335 340 345

Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
 ccacggtgtc cggtcttcgc ccggcggcag ctgtccccga ggcgaggagga 50  
 gcccgagggg gcgagagccc gcatgaatca ttgtagtcaa tcattttcca 100  
 gttctcagcc gttcagttgt gatcaaggga cacgtgggtt ccgaactgcc 150  
 agctcagaat aggaaaataa cttgggattt tatattggaa gacatggatc 200  
 ttgctgccaa cgagatcagc atttatgaca aactttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttggga 400  
 ttaatcttgc tactgccta ctttgtgatt caacctttca gccattagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
 cccacgcgtc cgcccacgcg tccggctgaa cacctcttct ttggagtcag 50  
 ccactgatga ggcaggggtc ccacttgagc ctgcagcagc tgcagcagct 100  
 gcagagcgct gctcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
 tgcctatgag ccgctggggc tgcagtgggg actgccctcc ctgccacca 200  
 ccaatggcag cccaccttc tttgaagact tccaggcttt ttgtgccaca 250  
 cccgaatggc gccacttcac cgacaaacag gtacagccaa ccatgtccca 300  
 gttcgaaatg gacacgtatg ctaagagcca cgaccttatg tcaggtttct 350  
 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
 gagcgcgccc agagtcgtcg ggccttcag gagctggtgc tggaacctgc 450

gcagaggcgg gcgcgcctgg aggggctacg ctacacggca gtgctgaagc 500  
agcaggcaac gcagcactcc atggccctgc tgcactgggg ggcgctgtgg 550  
cgccagctcg ccagcccatg tggggcctgg gcgctgaggg acactcccat 600  
cccccgctgg aaactgtcca gcgccgagac atattcacgc atgcgtctga 650  
agctggtgcc caaccatcac ttcgaccctc acctggaagc cagcgctctc 700  
cgagacaatc tgggtgaggt tcccctgaca cccaccgagg aggcctcact 750  
gcctctggca gtgaccaaag aggccaaagt gagcaccca cccgagttgc 800  
tgaggaggga ccagctcggc gaggacgagc tggctgagct ggagaccccg 850  
atggaggcag cagaactgga tgagcagcgt gagaagctgg tgctgtcggc 900  
cgagtgccag ctggtgacgg tagtggccgt ggtcccaggg ctgctggagg 950  
tcaccacaca gaatgtatac ttctacgatg gcagcactga gcgcgtggaa 1000  
accgaggagg gcatcggcta tgatttcggc cgccactgg cccagctgcg 1050  
tgagggtccac ctgcggcggt tcaacctgcg ccgttcagca cttgagctct 1100  
tctttatcga tcaggccaac tacttccctca acttcccatg caaggtgggc 1150  
acgacccag tctcatctcc tagccagact ccgagacccc agcctggccc 1200  
catccacccc cataccagg tacggaacca ggtgtactcg tggctcctgc 1250  
gcctacggcc cccctctcaa ggctacctaa gcagccgctc ccccaggag 1300  
atgctgcgtg cctcaggcct taccagaaa tgggtacagc gtgagatata 1350  
caacttcgag tacttgatgc aactcaacac cattgcgggg cggacctaca 1400  
atgacctgtc tcagtacct gtgttccctt gggctcctgca ggactacgtg 1450  
tcccacccc tggacctcag caaccagcc gtcttccggg acctgtctaa 1500  
gcccacgggt gtggtgaacc ccaagcatgc ccagctcgtg agggagaagt 1550  
atgaaagctt tgaggacca gcagggacca ttgacaagtt cactatggc 1600  
accactact ccaatgcagc aggcgtgatg cactacctca tccgcgtgga 1650  
gcccttcacc tccctgcagc tccagctgca aagtggccgc tttgactgct 1700  
ccgaccggca gttccactcg gtggcggcag cctggcaggc acgcctggag 1750  
agccctgccg atgtgaagga gctcatcccg gaattcttct actttcctga 1800  
cttctcggag aaccagaacg gttttgacct gggctgtctc cagctgacca 1850  
acgagaaggt aggcgatgtg gtgctacccc cgtgggcccag ctctcctgag 1900

gacttcatcc agcagcacccg ccaggctctg gagtcggagt atgtgtctgc 1950  
acacctacac gagtggatcg acctcatctt tggctacaag cagcgggggc 2000  
cagccgccga ggaggccctc aatgtcttct attactgcac ctatgagggg 2050  
gctgtagacc tggaccatgt gacagatgag cgggaacgga aggctctgga 2100  
gggcattatc agcaactttg ggcagactcc ctgtcagctg ctgaaggagc 2150  
cacatccaac tcggctctca gctgaggaag cagcccatcg ccttgcacgc 2200  
ctggacacta actcacctag catcttccag cacctggacg aactcaaggc 2250  
attcttcgca gaggtgactg tgagtgccag tgggctgctg ggcacccaca 2300  
gctggttgcc ctatgaccgc aacataagca actacttcag cttcagcaaa 2350  
gacccaccca tgggcagcca caagacgcag cgactgctga gtggcccgtg 2400  
ggtgccaggc agtgggtgtga gtggacaagc actggcagtg gccccggatg 2450  
gaaagctgct attcagcggc ggccactggg atggcagcct gcgggtgact 2500  
gcactacccc gtggcaagct gttgagccag ctgagctgcc accttgatgt 2550  
agtaacctgc cttgcactgg acacctgtgg catctacctc atctcaggct 2600  
cccgggacac cacgtgcatg gtgtggcggc tcctgcatca ggggtggtctg 2650  
tcagtaggcc tggcaccaaa gcctgtgcag gtcctgtatg ggcagggggc 2700  
tgcaagtgagc tgtgtggcca tcagcactga acttgacatg gctgtgtctg 2750  
gatctgagga tggaactgtg atcatacaca ctgtacgccg cggacagttt 2800  
gtagcggcac tacggcctct gggtgccaca ttccctggac ctattttcca 2850  
cctggcattg ggggccgaag gccagattgt ggtacagagc tcagcgtggg 2900  
aacgtcctgg ggcccaggtc acctactcct tgcacctgta ttcagtcaat 2950  
gggaagtgtc gggcttcaact gccctggca gagcagccta cagccctgac 3000  
ggtgacagag gacttttgtt tgctgggcac cgcccagtgc gccctgcaca 3050  
tcctccaact aaacacactg ctcccggccg cgctccctt gcccatgaag 3100  
gtggccatcc gcagcgtggc cgtgaccaag gagcgcagcc acgtgctggt 3150  
gggcctggag gatggcaagc tcatcgtggt ggtcgcgggg cagccctctg 3200  
aggtgcgcag cagccagttc gcgcggaagc tgtggcggtc ctgcgggcgc 3250  
atctcccagg tgtcctcggg agagacggaa tacaacccta ctgaggcgcg 3300  
ctgaacctgg ccagtcgggc tgctcggggc ccgcccccg caggcctggc 3350

ccgggaggcc ccgcccagaa gtcggcgga acaccccggtggtggcagcc 3400  
 caggggggtga gcggggccca ccctgcccag ctcagggtt ggcgggcgat 3450  
 gttaccccct cagggttgg cgggcggaag tcccggccct cgccggctga 3500  
 ggggccgccc tgagggccag cactggcgctc t 3531

<210> 33  
 <211> 1003  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Met Ser Gln Phe Glu Met Asp Thr Tyr Ala Lys Ser His Asp Leu  
 1 5 10 15  
 Met Ser Gly Phe Trp Asn Ala Cys Tyr Asp Met Leu Met Ser Ser  
 20 25 30  
 Gly Gln Arg Arg Gln Trp Glu Arg Ala Gln Ser Arg Arg Ala Phe  
 35 40 45  
 Gln Glu Leu Val Leu Glu Pro Ala Gln Arg Arg Ala Arg Leu Glu  
 50 55 60  
 Gly Leu Arg Tyr Thr Ala Val Leu Lys Gln Gln Ala Thr Gln His  
 65 70 75  
 Ser Met Ala Leu Leu His Trp Gly Ala Leu Trp Arg Gln Leu Ala  
 80 85 90  
 Ser Pro Cys Gly Ala Trp Ala Leu Arg Asp Thr Pro Ile Pro Arg  
 95 100 105  
 Trp Lys Leu Ser Ser Ala Glu Thr Tyr Ser Arg Met Arg Leu Lys  
 110 115 120  
 Leu Val Pro Asn His His Phe Asp Pro His Leu Glu Ala Ser Ala  
 125 130 135  
 Leu Arg Asp Asn Leu Gly Glu Val Pro Leu Thr Pro Thr Glu Glu  
 140 145 150  
 Ala Ser Leu Pro Leu Ala Val Thr Lys Glu Ala Lys Val Ser Thr  
 155 160 165  
 Pro Pro Glu Leu Leu Gln Glu Asp Gln Leu Gly Glu Asp Glu Leu  
 170 175 180  
 Ala Glu Leu Glu Thr Pro Met Glu Ala Ala Glu Leu Asp Glu Gln  
 185 190 195  
 Arg Glu Lys Leu Val Leu Ser Ala Glu Cys Gln Leu Val Thr Val  
 200 205 210  
 Val Ala Val Val Pro Gly Leu Leu Glu Val Thr Thr Gln Asn Val  
 215 220 225

Tyr	Phe	Tyr	Asp	Gly	Ser	Thr	Glu	Arg	Val	Glu	Thr	Glu	Glu	Gly	230	235	240
Ile	Gly	Tyr	Asp	Phe	Arg	Arg	Pro	Leu	Ala	Gln	Leu	Arg	Glu	Val	245	250	255
His	Leu	Arg	Arg	Phe	Asn	Leu	Arg	Arg	Ser	Ala	Leu	Glu	Leu	Phe	260	265	270
Phe	Ile	Asp	Gln	Ala	Asn	Tyr	Phe	Leu	Asn	Phe	Pro	Cys	Lys	Val	275	280	285
Gly	Thr	Thr	Pro	Val	Ser	Ser	Pro	Ser	Gln	Thr	Pro	Arg	Pro	Gln	290	295	300
Pro	Gly	Pro	Ile	Pro	Pro	His	Thr	Gln	Val	Arg	Asn	Gln	Val	Tyr	305	310	315
Ser	Trp	Leu	Leu	Arg	Leu	Arg	Pro	Pro	Ser	Gln	Gly	Tyr	Leu	Ser	320	325	330
Ser	Arg	Ser	Pro	Gln	Glu	Met	Leu	Arg	Ala	Ser	Gly	Leu	Thr	Gln	335	340	345
Lys	Trp	Val	Gln	Arg	Glu	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met	Gln	350	355	360
Leu	Asn	Thr	Ile	Ala	Gly	Arg	Thr	Tyr	Asn	Asp	Leu	Ser	Gln	Tyr	365	370	375
Pro	Val	Phe	Pro	Trp	Val	Leu	Gln	Asp	Tyr	Val	Ser	Pro	Thr	Leu	380	385	390
Asp	Leu	Ser	Asn	Pro	Ala	Val	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Ile	395	400	405
Gly	Val	Val	Asn	Pro	Lys	His	Ala	Gln	Leu	Val	Arg	Glu	Lys	Tyr	410	415	420
Glu	Ser	Phe	Glu	Asp	Pro	Ala	Gly	Thr	Ile	Asp	Lys	Phe	His	Tyr	425	430	435
Gly	Thr	His	Tyr	Ser	Asn	Ala	Ala	Gly	Val	Met	His	Tyr	Leu	Ile	440	445	450
Arg	Val	Glu	Pro	Phe	Thr	Ser	Leu	His	Val	Gln	Leu	Gln	Ser	Gly	455	460	465
Arg	Phe	Asp	Cys	Ser	Asp	Arg	Gln	Phe	His	Ser	Val	Ala	Ala	Ala	470	475	480
Trp	Gln	Ala	Arg	Leu	Glu	Ser	Pro	Ala	Asp	Val	Lys	Glu	Leu	Ile	485	490	495
Pro	Glu	Phe	Phe	Tyr	Phe	Pro	Asp	Phe	Leu	Glu	Asn	Gln	Asn	Gly	500	505	510
Phe	Asp	Leu	Gly	Cys	Leu	Gln	Leu	Thr	Asn	Glu	Lys	Val	Gly	Asp			

				515					520					525
Val	Val	Leu	Pro	Pro 530	Trp	Ala	Ser	Ser	Pro 535	Glu	Asp	Phe	Ile	Gln 540
Gln	His	Arg	Gln	Ala 545	Leu	Glu	Ser	Glu	Tyr 550	Val	Ser	Ala	His	Leu 555
His	Glu	Trp	Ile	Asp 560	Leu	Ile	Phe	Gly	Tyr 565	Lys	Gln	Arg	Gly	Pro 570
Ala	Ala	Glu	Glu	Ala 575	Leu	Asn	Val	Phe	Tyr 580	Tyr	Cys	Thr	Tyr	Glu 585
Gly	Ala	Val	Asp	Leu 590	Asp	His	Val	Thr	Asp 595	Glu	Arg	Glu	Arg	Lys 600
Ala	Leu	Glu	Gly	Ile 605	Ile	Ser	Asn	Phe	Gly 610	Gln	Thr	Pro	Cys	Gln 615
Leu	Leu	Lys	Glu	Pro 620	His	Pro	Thr	Arg	Leu 625	Ser	Ala	Glu	Glu	Ala 630
Ala	His	Arg	Leu	Ala 635	Arg	Leu	Asp	Thr	Asn 640	Ser	Pro	Ser	Ile	Phe 645
Gln	His	Leu	Asp	Glu 650	Leu	Lys	Ala	Phe	Phe 655	Ala	Glu	Val	Thr	Val 660
Ser	Ala	Ser	Gly	Leu 665	Leu	Gly	Thr	His	Ser 670	Trp	Leu	Pro	Tyr	Asp 675
Arg	Asn	Ile	Ser	Asn 680	Tyr	Phe	Ser	Phe	Ser 685	Lys	Asp	Pro	Thr	Met 690
Gly	Ser	His	Lys	Thr 695	Gln	Arg	Leu	Leu	Ser 700	Gly	Pro	Trp	Val	Pro 705
Gly	Ser	Gly	Val	Ser 710	Gly	Gln	Ala	Leu	Ala 715	Val	Ala	Pro	Asp	Gly 720
Lys	Leu	Leu	Phe	Ser 725	Gly	Gly	His	Trp	Asp 730	Gly	Ser	Leu	Arg	Val 735
Thr	Ala	Leu	Pro	Arg 740	Gly	Lys	Leu	Leu	Ser 745	Gln	Leu	Ser	Cys	His 750
Leu	Asp	Val	Val	Thr 755	Cys	Leu	Ala	Leu	Asp 760	Thr	Cys	Gly	Ile	Tyr 765
Leu	Ile	Ser	Gly	Ser 770	Arg	Asp	Thr	Thr	Cys 775	Met	Val	Trp	Arg	Leu 780
Leu	His	Gln	Gly	Gly 785	Leu	Ser	Val	Gly	Leu 790	Ala	Pro	Lys	Pro	Val 795
Gln	Val	Leu	Tyr	Gly 800	His	Gly	Ala	Ala	Val 805	Ser	Cys	Val	Ala	Ile 810

Ser	Thr	Glu	Leu	Asp 815	Met	Ala	Val	Ser	Gly 820	Ser	Glu	Asp	Gly	Thr 825
Val	Ile	Ile	His	Thr 830	Val	Arg	Arg	Gly	Gln 835	Phe	Val	Ala	Ala	Leu 840
Arg	Pro	Leu	Gly	Ala 845	Thr	Phe	Pro	Gly	Pro 850	Ile	Phe	His	Leu	Ala 855
Leu	Gly	Ser	Glu	Gly 860	Gln	Ile	Val	Val	Gln 865	Ser	Ser	Ala	Trp	Glu 870
Arg	Pro	Gly	Ala	Gln 875	Val	Thr	Tyr	Ser	Leu 880	His	Leu	Tyr	Ser	Val 885
Asn	Gly	Lys	Leu	Arg 890	Ala	Ser	Leu	Pro	Leu 895	Ala	Glu	Gln	Pro	Thr 900
Ala	Leu	Thr	Val	Thr 905	Glu	Asp	Phe	Val	Leu 910	Leu	Gly	Thr	Ala	Gln 915
Cys	Ala	Leu	His	Ile 920	Leu	Gln	Leu	Asn	Thr 925	Leu	Leu	Pro	Ala	Ala 930
Pro	Pro	Leu	Pro	Met 935	Lys	Val	Ala	Ile	Arg 940	Ser	Val	Ala	Val	Thr 945
Lys	Glu	Arg	Ser	His 950	Val	Leu	Val	Gly	Leu 955	Glu	Asp	Gly	Lys	Leu 960
Ile	Val	Val	Val	Ala 965	Gly	Gln	Pro	Ser	Glu 970	Val	Arg	Ser	Ser	Gln 975
Phe	Ala	Arg	Lys	Leu 980	Trp	Arg	Ser	Ser	Arg 985	Arg	Ile	Ser	Gln	Val 990
Ser	Ser	Gly	Glu	Thr 995	Glu	Tyr	Asn	Pro	Thr 1000	Glu	Ala	Arg		

<210> 34

<212> DNA

<220>

<400> 34

<210> 35

<212> DNA

<400> 35



atcatgcaac	cccacggccc	accttgtaa	ctcctcgtgc	ccagggctga	100
tgtgcgtctt	ccagggctac	tcatccaaag	gcctaatcca	acgttctgtc	150
ttcaatctgc	aaatctatgg	ggtcctgggg	ctcttctgga	cccttaactg	200
ggtagctggc	ctgggccaat	gcgtcctcgc	tggagccttt	gcctccttct	250
actgggcctt	ccacaagccc	caggacatcc	ctaccttccc	cttaatctct	300
gccttcatcc	gcacactccg	ttaccacact	gggtcattgg	catttgaggc	350
cctcatcctg	acccttgtgc	agatagcccc	ggtcatcttg	gagtatattg	400
accacaagct	cagaggagtg	cagaaccctg	tagcccgtcg	catcatgtgc	450
tgtttcaagt	gctgcctctg	gtgtctggaa	aaatttatca	agttcctaaa	500
ccgcaatgca	tacatcatga	tcgccatcta	cgggaagaat	ttctgtgtct	550
cagccaaaaa	tgcgttcatg	ctactcatgc	gaaacattgt	cagggtggtc	600
gtcctggaca	aagtcacaga	cctgctgctg	ttctttggga	agctgctggg	650
ggtcggaggc	gtgggggtcc	tgtccttctt	ttttttctcc	ggtcgcatcc	700
cggggctggg	taaagacttt	aagagcccc	acctcaacta	ttactggctg	750
cccatcatga	cctccatcct	gggggcctat	gtcatcgcca	gcggcttctt	800
cagcgttttc	ggcatgtgtg	tggacacgct	cttcctctgc	ttcctggaag	850
acctggagcg	gaacaacggc	tccttggaac	ggccctacta	catgtccaag	900
agccttctaa	agattctggg	caagaagaac	gaggcgcccc	cggacaacaa	950
gaagaggaag	aagtgcacgc	tcgggccttg	atccaggact	gcacccacc	1000
cccacgtcc	agccatccaa	cctcacttcg	ccttacaggt	ctccattttg	1050
tggtaaaaaa	aggtttttagg	ccaggcgccg	tggctcacgc	ctgtaatcca	1100
acactttgag	aggctgaggc	gggcggatca	cctgagtcag	gagttcgaga	1150
ccagcctggc	caacatggtg	aaacctccgt	ctctattaaa	aatacaaaaa	1200
ttagccgaga	gtggtggcat	gcacctgtca	tcccagctac	tcgggagggt	1250
gaggcaggag	aatcgcttga	acccgggagg	cagaggttgc	agtgcgccga	1300
gatcgcgcca	ctgcactcca	acctgggtga	cagactctgt	ctccaaaaca	1350
aaacaaaaca	acaaaaagat	tttattaaag	atattttgtt	aactc	1395

```
<210> 36
<211> 321
<212> PRT
<213> Homo sapiens
```

<400> 36

Arg	Thr	Arg	Gly	Arg	Thr	Arg	Gly	Gly	Cys	Glu	Lys	Val	Pro	Ile	
1				5					10					15	
Asn	Thr	Ser	Cys	Asn	Pro	Thr	Ala	His	Leu	Val	Asn	Ser	Ser	Cys	
				20					25					30	
Pro	Gly	Leu	Met	Cys	Val	Phe	Gln	Gly	Tyr	Ser	Ser	Lys	Gly	Leu	
				35					40					45	
Ile	Gln	Arg	Ser	Val	Phe	Asn	Leu	Gln	Ile	Tyr	Gly	Val	Leu	Gly	
				50					55					60	
Leu	Phe	Trp	Thr	Leu	Asn	Trp	Val	Leu	Ala	Leu	Gly	Gln	Cys	Val	
				65					70					75	
Leu	Ala	Gly	Ala	Phe	Ala	Ser	Phe	Tyr	Trp	Ala	Phe	His	Lys	Pro	
				80					85					90	
Gln	Asp	Ile	Pro	Thr	Phe	Pro	Leu	Ile	Ser	Ala	Phe	Ile	Arg	Thr	
				95					100					105	
Leu	Arg	Tyr	His	Thr	Gly	Ser	Leu	Ala	Phe	Gly	Ala	Leu	Ile	Leu	
				110					115					120	
Thr	Leu	Val	Gln	Ile	Ala	Arg	Val	Ile	Leu	Glu	Tyr	Ile	Asp	His	
				125					130					135	
Lys	Leu	Arg	Gly	Val	Gln	Asn	Pro	Val	Ala	Arg	Cys	Ile	Met	Cys	
				140					145					150	
Cys	Phe	Lys	Cys	Cys	Leu	Trp	Cys	Leu	Glu	Lys	Phe	Ile	Lys	Phe	
				155					160					165	
Leu	Asn	Arg	Asn	Ala	Tyr	Ile	Met	Ile	Ala	Ile	Tyr	Gly	Lys	Asn	
				170					175					180	
Phe	Cys	Val	Ser	Ala	Lys	Asn	Ala	Phe	Met	Leu	Leu	Met	Arg	Asn	
				185					190					195	
Ile	Val	Arg	Val	Val	Val	Leu	Asp	Lys	Val	Thr	Asp	Leu	Leu	Leu	
				200					205					210	
Phe	Phe	Gly	Lys	Leu	Leu	Val	Val	Gly	Gly	Val	Gly	Val	Leu	Ser	
				215					220					225	
Phe	Phe	Phe	Phe	Ser	Gly	Arg	Ile	Pro	Gly	Leu	Gly	Lys	Asp	Phe	
				230					235					240	
Lys	Ser	Pro	His	Leu	Asn	Tyr	Tyr	Trp	Leu	Pro	Ile	Met	Thr	Ser	
				245					250					255	
Ile	Leu	Gly	Ala	Tyr	Val	Ile	Ala	Ser	Gly	Phe	Phe	Ser	Val	Phe	
				260					265					270	
Gly	Met	Cys	Val	Asp	Thr	Leu	Phe	Leu	Cys	Phe	Leu	Glu	Asp	Leu	
				275					280					285	

Glu	Arg	Asn	Asn	Gly	Ser	Leu	Asp	Arg	Pro	Tyr	Tyr	Met	Ser	Lys
				290					295					300
Ser	Leu	Leu	Lys	Ile	Leu	Gly	Lys	Lys	Asn	Glu	Ala	Pro	Pro	Asp
				305					310					315
Asn	Lys	Lys	Arg	Lys	Lys									
				320										

<210> 37  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 37  
 tcgtgcccag gggctgatgt gc 22

<210> 38  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 38  
 gtctttaccc agccccggga tgcg 24

<210> 39  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 39  
 ggcctaattcc aacgttctgt cttcaatctg caaatctatg gggctctggg 50

<210> 40  
 <211> 1365  
 <212> DNA  
 <213> Homo sapiens

<400> 40  
 gagtcttgac cgccgccggg ctcttggtac ctcagcgca ggcgcaggcg 50  
 tccggccgcc gtggctatgt tcgtgtccga tttccgcaa gagttctacg 100  
 aggtgggtcca gagccagagg gtccttctct tcgtggcctc ggacgtggat 150  
 gctctgtgtg cgtgcaagat ccttcaggcc ttgttccagt gtgaccacgt 200  
 gcaatatacg ctggttccag tttctgggtg gcaagaactt gaaactgcat 250

ttcttgagca taaagaacag ttccattatt ttattctcat aaactgtgga 300  
gctaattgtag acctattgga tattcttcaa cctgatgaag acactatatt 350  
ctttgtgtgt gactcccata ggccagtcaa tgctgtcaat gtatacaacg 400  
ataccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
gcctatgaag acatcttcag ggatgaagag gaggatgaag agcattcagg 500  
aaatgacagt gatgggtcag agccttctga gaagcgcaca cggttagaag 550  
aggagatagt ggagcaaacc atgcggagga ggcagcggcg agagtgggag 600  
gcccggagaa gagacatcct ctttgactac gagcagtatg aatatcatgg 650  
gacatcgtca gccatggtga tgtttgagct ggcttgatg ctgtccaagg 700  
acctgaatga catgctgtgg tgggccatcg ttggactaac agaccagtgg 750  
gtgcaagaca agatcactca aatgaaatac gtgactgatg ttggtgtcct 800  
gcagcgccac gtttcccgcc acaaccaccg gaacgaggat gaggagaaca 850  
cactctccgt ggactgcaca cggatctcct ttgagtatga cctccgcctg 900  
gtgctctacc agcactggtc cctccatgac agcctgtgca acaccagcta 950  
taccgcagcc aggttcaagc tgtggtctgt gcatggacag aagcggctcc 1000  
aggagtccct tgcagacatg ggtcttcccc tgaagcaggt gaagcagaag 1050  
ttccaggcca tggacatctc cttgaaggag aatttgcgga aaatgattga 1100  
agagtctgca aataaatttg ggatgaagga catgcgcgtg cagactttca 1150  
gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200  
gccaccatgt ctttgatgga gagccccgag aaggatggct caggacaga 1250  
tcacttcac caggctctgg acagcctctc caggagtaac ctggacaagc 1300  
tgtaccatgg cctggaactc gccagaagc agctgcgagc caccagcag 1350  
accattgcca gctgc 1365

<210> 41  
<211> 566  
<212> PRT  
<213> Homo sapiens

<400> 41  
Met Phe Val Ser Asp Phe Arg Lys Glu Phe Tyr Glu Val Val Gln  
1 5 10 15  
Ser Gln Arg Val Leu Phe Val Ala Ser Asp Val Asp Ala Leu  
20 25 30

Cys	Ala	Cys	Lys	Ile 35	Leu	Gln	Ala	Leu	Phe 40	Gln	Cys	Asp	His	Val 45
Gln	Tyr	Thr	Leu	Val 50	Pro	Val	Ser	Gly	Trp 55	Gln	Glu	Leu	Glu	Thr 60
Ala	Phe	Leu	Glu	His 65	Lys	Glu	Gln	Phe	His 70	Tyr	Phe	Ile	Leu	Ile 75
Asn	Cys	Gly	Ala	Asn 80	Val	Asp	Leu	Leu	Asp 85	Ile	Leu	Gln	Pro	Asp 90
Glu	Asp	Thr	Ile	Phe 95	Phe	Val	Cys	Asp	Ser 100	His	Arg	Pro	Val	Asn 105
Val	Val	Asn	Val	Tyr 110	Asn	Asp	Thr	Gln	Ile 115	Lys	Leu	Leu	Ile	Lys 120
Gln	Asp	Asp	Asp	Leu 125	Glu	Val	Pro	Ala	Tyr 130	Glu	Asp	Ile	Phe	Arg 135
Asp	Glu	Glu	Glu	Asp 140	Glu	Glu	His	Ser	Gly 145	Asn	Asp	Ser	Asp	Gly 150
Ser	Glu	Pro	Ser	Glu 155	Lys	Arg	Thr	Arg	Leu 160	Glu	Glu	Glu	Ile	Val 165
Glu	Gln	Thr	Met	Arg 170	Arg	Arg	Gln	Arg	Arg 175	Glu	Trp	Glu	Ala	Arg 180
Arg	Arg	Asp	Ile	Leu 185	Phe	Asp	Tyr	Glu	Gln 190	Tyr	Glu	Tyr	His	Gly 195
Thr	Ser	Ser	Ala	Met 200	Val	Met	Phe	Glu	Leu 205	Ala	Trp	Met	Leu	Ser 210
Lys	Asp	Leu	Asn	Asp 215	Met	Leu	Trp	Trp	Ala 220	Ile	Val	Gly	Leu	Thr 225
Asp	Gln	Trp	Val	Gln 230	Asp	Lys	Ile	Thr	Gln 235	Met	Lys	Tyr	Val	Thr 240
Asp	Val	Gly	Val	Leu 245	Gln	Arg	His	Val	Ser 250	Arg	His	Asn	His	Arg 255
Asn	Glu	Asp	Glu	Glu 260	Asn	Thr	Leu	Ser	Val 265	Asp	Cys	Thr	Arg	Ile 270
Ser	Phe	Glu	Tyr	Asp 275	Leu	Arg	Leu	Val	Leu 280	Tyr	Gln	His	Trp	Ser 285
Leu	His	Asp	Ser	Leu 290	Cys	Asn	Thr	Ser	Tyr 295	Thr	Ala	Ala	Arg	Phe 300
Lys	Leu	Trp	Ser	Val 305	His	Gly	Gln	Lys	Arg 310	Leu	Gln	Glu	Phe	Leu 315
Ala	Asp	Met	Gly	Leu	Pro	Leu	Lys	Gln	Val	Lys	Gln	Lys	Phe	Gln

	320		325		330
Ala Met Asp Ile	Ser Leu Lys Glu Asn	Leu Arg Glu Met Ile	Glu		
	335		340		345
Glu Ser Ala Asn	Lys Phe Gly Met Lys	Asp Met Arg Val Gln	Thr		
	350		355		360
Phe Ser Ile His	Phe Gly Phe Lys His	Lys Phe Leu Ala Ser	Asp		
	365		370		375
Val Val Phe Ala	Thr Met Ser Leu Met	Glu Ser Pro Glu Lys	Asp		
	380		385		390
Gly Ser Gly Thr	Asp His Phe Ile Gln	Ala Leu Asp Ser Leu	Ser		
	395		400		405
Arg Ser Asn Leu	Asp Lys Leu Tyr His	Gly Leu Glu Leu Ala	Lys		
	410		415		420
Lys Gln Leu Arg	Ala Thr Gln Gln Thr	Ile Ala Ser Cys Leu	Cys		
	425		430		435
Thr Asn Leu Val	Ile Ser Gln Gly Pro	Phe Leu Tyr Cys Ser	Leu		
	440		445		450
Met Glu Gly Thr	Pro Asp Val Met Leu	Phe Ser Arg Pro Ala	Ser		
	455		460		465
Leu Ser Leu Leu	Ser Lys His Leu Leu	Lys Ser Phe Val Cys	Ser		
	470		475		480
Thr Lys Asn Arg	Arg Cys Lys Leu Leu	Pro Leu Val Met Ala	Ala		
	485		490		495
Pro Leu Ser Met	Glu His Gly Thr Val	Thr Val Val Gly Ile	Pro		
	500		505		510
Pro Glu Thr Asp	Ser Ser Asp Arg Lys	Asn Phe Phe Gly Arg	Ala		
	515		520		525
Phe Glu Lys Ala	Ala Glu Ser Thr Ser	Ser Arg Met Leu His	Asn		
	530		535		540
His Phe Asp Leu	Ser Val Ile Glu Leu	Lys Ala Glu Asp Arg	Ser		
	545		550		555
Lys Phe Leu Asp	Ala Leu Ile Ser Leu	Leu Ser			
	560		565		

<210> 42  
 <211> 380  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 44, 118, 172, 183

<223> unknown base

<400> 42

gtacctcagc gcgagcgcca ggcgtccggc cgccgtggct atgntcgtgt 50  
ccgatttccg caaagagttc tacgaggtgg tccagagcca gagggtcctt 100  
ctcttcgtgg cctcggangt ggatgctctg tgtgcgtgca agatccttca 150  
ggccttggtc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200  
ggtggcaaga acttgaaact gcatttcttg agcataaaga acagtttcat 250  
tattttattc tcataaactg tggagctaata gtagacctat tggatattct 300  
tcaacctgat gaagacacta tattctttgt gtgtgacacc cataggccag 350  
tcaatgttgt caatgtatac aacgataccc 380

<210> 43

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 43

ttccgcaaag agttctacga ggtgg 25

<210> 44

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 44

attgacaaca ttgactggcc tatggg 26

<210> 45

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 45

gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgtga 50

<210> 46

<211> 3089

<212> DNA

<213> Homo sapiens

<400> 46

caggaaccct ctctttgggt ctggattggg acccctttcc agtaccattt 50  
 tttctagtga accacgaagg gacgatacca gaaaacaccc tcaacccaaa 100  
 ggaaatagac tacagcccca attggctgac tttggctata gaaaaaagaa 150  
 aggaacgaaa agagacagtt ttttttggaa agctaagtct tccctttatc 200  
 gagtcaagaa accccccctt cttgagctat ttacagcttt taacaattga 250  
 gtaaagtacg ctccgggtcac catgggtgaca gccgccctgg gtcccgtctg 300  
 ggagcgctc ctgctctttc tctgatgtg tgagatccgt atgggtggagc 350  
 tcacctttga cagagctgtg gccagcggct gccaacgggt ctgtgactct 400  
 gaggaccccc tggatcctgc ccatgtatcc tcagcctctt cctccggccg 450  
 cccccacgcc ctgcctgaga tcagacccta cattaatat accatcctga 500  
 aggggtgacaa aggggaccca ggcccaatgg gcctgccagg gtacatgggc 550  
 agggagggtc cccaagggga gcctggccct cagggcagca aggggtgacaa 600  
 gggggagatg ggcagccccg gcgccccgtg ccagaagcgc ttcttcgcct 650  
 tctcagtggg ccgcaagacg gcctgcaca gcggcgagga cttccagacg 700  
 ctgctcttcg aaagggtctt tgtgaacctt gatgggtgct ttgacatggc 750  
 gaccggccag tttgctgctc ccctgcgtgg catctacttc ttcagcctca 800  
 atgtgcacag ctggaattac aaggagacgt acgtgcacat tatgcataac 850  
 cagaaagagg ctgtcatcct gtacgcgcag cccagcgagc gcagcatcat 900  
 gcagagccag agtgtgatgc tggacctggc ctacggggac cgcgtctggg 950  
 tgcggtctct caagcgccag cgcgagaacg ccatctacag caacgacttc 1000  
 gacacctaca tcaccttcag cggccacctc atcaaggccg aggacgactg 1050  
 agggcctctg ggccaccctc ccggctggag agctcaggtg ctgggtcccgt 1100  
 cccctgcagg gctcagtttg cactgctgtg aagcaggaag gccagggagg 1150  
 tccccgggga cctggcattc tggggagacc ctgcttctat cttggctgcc 1200  
 atcatccctc ccagcctatt tctgctctc tcttctctct tggacctatt 1250  
 ttaagaagct tgctaacctc aatattctag aactttcca gcctcgtagc 1300  
 ccagcacttc tcaaacttgg aaatgcatgc gaatcacccg gggttcgtgt 1350  
 taaatgcaga ttctgactca gcaggtctga gtgggtccag gattctgtgt 1400  
 ttctcatatg ttcctgggtg atgctgatgg ggtcagtcta tgaaccacac 1450



tggagcaacc aggttctagg actttctcaa tattctagta ctttctgaac 1500  
 attctggaat cctccccaca ttctagaatt ctccaacat ttttttttct 1550  
 tgagacagag tcttgctctg ttgccaggc tagagtgcag tggtgcaatc 1600  
 tcagttcact gcaacctctg cctcccggt tcaagcgatt cttctgcctc 1650  
 agcctcccta gtggctggga ttacaggcgc ctgctaccat gcctggctaa 1700  
 tttttgtatt tttagtagag atgggggttc accatattgg ccaggctggt 1750  
 cttgaactcc tgacttcagg tgaccacccc gcctcggcct ctcaaaatgc 1800  
 tgggattaca ggtgtgagcc accgtgcctg gccaatcca acattcttaa 1850  
 attctctcat cctccaggg ctccccgtgc tatgttctct ttacccttc 1900  
 cccctcttct cttgctcagg cctgcaccac tgcagccacc gttcatttat 1950  
 tcattcatta aacactgagc actcactctg tgctgggtcc cgggaagggt 2000  
 gagggggtca gacacaggcc ctgcccctgc cctcagtgc tggccagtcc 2050  
 agcccaggcg gggagagatg tgtacatagg ttttaaagca gaccagagc 2100  
 tcatgggggc ctgtgttctg ggtgttcagg tgctgctggt cctccattac 2150  
 cactgctcc ccaaggctgg tgggacgggg tcccgggtggc aggggcaggt 2200  
 atctcctcc cgttcctcat ccacctgcc agtgctcatc gttacagcaa 2250  
 accccagggg gccttgcca ggtcaagggt tctgtgagga gaggaccag 2300  
 gagtggtggg gcatttgggg ggtgaagtgg ccccgaaga atggaacca 2350  
 caccatagc tctccccaca gctgatacgg catcctgcga gaagacctgc 2400  
 cctcctcact gggatcccct tctgcctcc tcccagggt ctgccagggc 2450  
 cttgctcagt cccttcacc aaagtcact gaacttccgt ttcccaggg 2500  
 cctccagctg ccctcagaca ctgatgtctg tcccagggt ctctctgccc 2550  
 ctcatgcccc tctcaccggc ccagtgcccc gactctccag gctttatcaa 2600  
 ggtgctaagg cccgggtggg cagctcctcg tctcagagcc ctctccggc 2650  
 ctggtgctgc ctttaciaaac acctgcagga gaagggccac ggaagcccca 2700  
 ggcttttagag ccctcagcag gtctggggag ctagagcaaa ggaggacct 2750  
 caggccttcc gtttcttctt ccagggtggg gtggcctggt gttcccctag 2800  
 ccttccaaac ccaggtggcc tgcccttctc cccagagga ggcggcctcc 2850  
 gccattggt gctcatgcag actctggggc tgaggtgccc cggggggtga 2900

tctctgggtgc tcacagccga gggagccgtg gctccatggc cagatgacgg 2950  
 aaacaggggtc tgaccaagtg ccaggaagac ctgtgctata aaccaccctg 3000  
 cctgatcctg cccctgcctg accccgccac gccctgccgt ccagcatgat 3050  
 taaagaatgc tgtctcctct tggaaaaaaaa aaaaaaaaaa 3089

<210> 47  
 <211> 259  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal Peptide  
 <222> 1-20  
 <223> Signal Peptide

<220>  
 <221> N-glycosylation Site  
 <222> 72-75  
 <223> N-glycosylation Site

<220>  
 <221> Clq Domain Proteins  
 <222> 144-178, 78-111, 84-117  
 <223> Clq Domain Proteins

<400> 47  
 Met Val Thr Ala Ala Leu Gly Pro Val Trp Ala Ala Leu Leu Leu  
     1                    5                    10                    15  
 Phe Leu Leu Met Cys Glu Ile Arg Met Val Glu Leu Thr Phe Asp  
                     20                    25                    30  
 Arg Ala Val Ala Ser Gly Cys Gln Arg Cys Cys Asp Ser Glu Asp  
                     35                    40                    45  
 Pro Leu Asp Pro Ala His Val Ser Ser Ala Ser Ser Ser Gly Arg  
                     50                    55                    60  
 Pro His Ala Leu Pro Glu Ile Arg Pro Tyr Ile Asn Ile Thr Ile  
                     65                    70                    75  
 Leu Lys Gly Asp Lys Gly Asp Pro Gly Pro Met Gly Leu Pro Gly  
                     80                    85                    90  
 Tyr Met Gly Arg Glu Gly Pro Gln Gly Glu Pro Gly Pro Gln Gly  
                     95                    100                    105  
 Ser Lys Gly Asp Lys Gly Glu Met Gly Ser Pro Gly Ala Pro Cys  
                     110                    115                    120  
 Gln Lys Arg Phe Phe Ala Phe Ser Val Gly Arg Lys Thr Ala Leu  
                     125                    130                    135  
 His Ser Gly Glu Asp Phe Gln Thr Leu Leu Phe Glu Arg Val Phe  
                     140                    145                    150

Val	Asn	Leu	Asp	Gly	Cys	Phe	Asp	Met	Ala	Thr	Gly	Gln	Phe	Ala
				155					160					165
Ala	Pro	Leu	Arg	Gly	Ile	Tyr	Phe	Phe	Ser	Leu	Asn	Val	His	Ser
				170					175					180
Trp	Asn	Tyr	Lys	Glu	Thr	Tyr	Val	His	Ile	Met	His	Asn	Gln	Lys
				185					190					195
Glu	Ala	Val	Ile	Leu	Tyr	Ala	Gln	Pro	Ser	Glu	Arg	Ser	Ile	Met
				200					205					210
Gln	Ser	Gln	Ser	Val	Met	Leu	Asp	Leu	Ala	Tyr	Gly	Asp	Arg	Val
				215					220					225
Trp	Val	Arg	Leu	Phe	Lys	Arg	Gln	Arg	Glu	Asn	Ala	Ile	Tyr	Ser
				230					235					240
Asn	Asp	Phe	Asp	Thr	Tyr	Ile	Thr	Phe	Ser	Gly	His	Leu	Ile	Lys
				245					250					255

Ala Glu Asp Asp

<210> 48  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 48  
 ccagacgctg ctcttcgaaa gggtc 25

<210> 49  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 49  
 ggtccccgta ggccaggtcc agc 23

<210> 50  
 <211> 50  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 50  
 ctacttcttc agcctcaatg tgcacagctg gaattacaag gagacgtacg 50

<210> 51

<211> 2768  
 <212> DNA  
 <213> Homo sapiens

<400> 51

```

actcgaacgc agttgcttcg ggacccagga cccctcgagg cccgacccgc 50
caggaaagac tgaggccgcg gcctgccccg cccggctccc tgcgcccgcg 100
ccgcctcccc ggacagaaga tgtgctccag ggtccctctg ctgctgccgc 150
tgctcctgct actggccctg gggcctgggg tgcagggtg cccatccggc 200
tgccagtgca gccagccaca gacagtcttc tgcactgcc gccaggggac 250
cacggtgccc cgagacgtgc caccgcacac ggtggggctg tacgtctttg 300
agaacggcat caccatgtc gacgcaggca gctttgccgg cctgccgggc 350
ctgcagctcc tggacctgtc acagaaccag atcgccagcc tgcccagcgg 400
ggtcttccag cactcgcca acctagcaa cctggacctg acggccaaca 450
ggctgcatga aatcaccaat gagaccttcc gtggcctgcg gcgcctcgag 500
cgctctacc tgggcaagaa ccgcattccc cacatccagc ctgggtgcctt 550
cgacacgtc gaccgcctcc tggagctcaa gctgcaggac aacgagctgc 600
gggcactgcc cccgctgcgc ctgccccgcc tgctgctgct ggacctcagc 650
cacaacagcc tcctggccct ggagcccggc atcctggaca ctgccaacgt 700
ggaggcgctg cggttggtg gtctggggct gcagcagctg gacgaggggc 750
tcttcagccg cttgcgcaac ctccacgacc tggatgtgtc cgacaaccag 800
ctggagcgag tgccacctgt gatccgaggc ctccggggcc tgacgcgcct 850
gcggctggcc ggcaacaccc gcattgccca gctgcggccc gaggacctgg 900
ccggcctggc tgccctgcag gagctggatg tgagcaacct aagcctgcag 950
gccctgctg gcgacctctc gggcctcttc cccgcctgc ggctgctggc 1000
agctgcccgc aacccttca actgcgtgtg cccctgagc tggtttgcc 1050
cctgggtgcg cgagagccac gtcacactgg ccagccctga ggagacgcgc 1100
tgccacttcc cgccaagaa cgctggccgg ctgctcctgg agcttgacta 1150
cgccgacttt ggctgcccag ccaccaccac cacagccaca gtgcccacca 1200
cgaggcccg ggtgcgggag cccacagcct tgtcttctag cttggctcct 1250
acctggctta gcccacagc gccggccact gaggccccc gcccgcctc 1300
cactgcccc cagactgtag ggctgtccc ccagcccag gactgccac 1350

```

09041992-032201

cgtccacctg cctcaatggg ggcacatgcc acctggggac acggcaccac 1400  
 ctggcggtgt tgtgccccga aggccttcacg ggcctgtact gtgagagcca 1450  
 gatggggcag gggacacggc ccagccctac accagtcacg ccgaggccac 1500  
 cacgggtccct gaccctgggc atcgagccgg tgagccccac ctccctgcgc 1550  
 gtggggctgc agcgctacct ccaggggagc tccgtgcagc tcaggagcct 1600  
 ccgtctcacc tatcgcaacc tatcggggcc tgataagcgg ctggtgacgc 1650  
 tgcgactgcc tgcctcgctc gctgagtaca cggtcaccca gctgcggccc 1700  
 aacgccactt actccgtctg tgtcatgcct ttggggcccg ggcggtgccc 1750  
 ggagggcgag gaggcctgcg gggaggccca tacaccccca gccgtccact 1800  
 ccaaccacgc ccagtcacc caggcccgcg agggcaacct gccgtcctc 1850  
 attgcgcccc ccctggccgc ggtgctcctg gccgcgctgg ctgcggtggg 1900  
 ggcagcctac tgtgtgcggc gggggcgggc catggcagca gcggctcagg 1950  
 acaaagggca ggtggggcca ggggctgggc ccctggaact ggagggagt 2000  
 aaggtccctt tggagccagg cccgaaggca acagagggcg gtggagaggc 2050  
 cctgcccagc ggggtctgagt gtgaggtgcc actcatgggc ttcccagggc 2100  
 ctggcctcca gtcaccctc cagcгааagc cctacatcta agccagagag 2150  
 agacagggca gctggggccg ggctctcagc cagtgagatg gccagcccc 2200  
 tcctgctgcc acaccacgta agttctcagt cccaacctcg gggatgtgtg 2250  
 cagacagggc tgtgtgacca cagctgggccc ctgttccctc tggacctcg 2300  
 tctcctcatc tgtgagatgc tgtggcccag ctgacgagcc ctaacgtccc 2350  
 cagaaccgag tgcctatgag gacagtgtcc gccctgccct ccgcaacgtg 2400  
 cagtccctgg gcacggcggg ccctgccatg tgcctggtaac gcatgcctgg 2450  
 gtccctgctgg gctctccac tccaggcgga ccctgggggc cagtgaagga 2500  
 agctcccgga aagagcagag ggagagcggg taggcggctg tgtgactcta 2550  
 gtcttgggcc caggaagcga aggaacaaaa gaaactggaa aggaagatgc 2600  
 tttaggaaca tgttttgctt ttttaaaata tatatattta taagagatcc 2650  
 tttcccatth attctgggaa gatgtttttc aaactcagag acaaggactt 2700  
 tggtttttgt aagacaaacg atgatatgaa ggccttttgt aagaaaaaat 2750  
 aaaagatgaa gtgtgaaa 2768

<210> 52  
 <211> 673  
 <212> PRT  
 <213> Homo sapiens

<400> 52

Met	Cys	Ser	Arg	Val	Pro	Leu	Leu	Leu	Pro	Leu	Leu	Leu	Leu	Leu	Leu
1				5					10						15
Ala	Leu	Gly	Pro	Gly	Val	Gln	Gly	Cys	Pro	Ser	Gly	Cys	Gln	Cys	
				20					25					30	
Ser	Gln	Pro	Gln	Thr	Val	Phe	Cys	Thr	Ala	Arg	Gln	Gly	Thr	Thr	
				35					40					45	
Val	Pro	Arg	Asp	Val	Pro	Pro	Asp	Thr	Val	Gly	Leu	Tyr	Val	Phe	
				50					55					60	
Glu	Asn	Gly	Ile	Thr	Met	Leu	Asp	Ala	Gly	Ser	Phe	Ala	Gly	Leu	
				65					70					75	
Pro	Gly	Leu	Gln	Leu	Leu	Asp	Leu	Ser	Gln	Asn	Gln	Ile	Ala	Ser	
				80					85					90	
Leu	Pro	Ser	Gly	Val	Phe	Gln	Pro	Leu	Ala	Asn	Leu	Ser	Asn	Leu	
				95					100					105	
Asp	Leu	Thr	Ala	Asn	Arg	Leu	His	Glu	Ile	Thr	Asn	Glu	Thr	Phe	
				110					115					120	
Arg	Gly	Leu	Arg	Arg	Leu	Glu	Arg	Leu	Tyr	Leu	Gly	Lys	Asn	Arg	
				125					130					135	
Ile	Arg	His	Ile	Gln	Pro	Gly	Ala	Phe	Asp	Thr	Leu	Asp	Arg	Leu	
				140					145					150	
Leu	Glu	Leu	Lys	Leu	Gln	Asp	Asn	Glu	Leu	Arg	Ala	Leu	Pro	Pro	
				155					160					165	
Leu	Arg	Leu	Pro	Arg	Leu	Leu	Leu	Leu	Asp	Leu	Ser	His	Asn	Ser	
				170					175					180	
Leu	Leu	Ala	Leu	Glu	Pro	Gly	Ile	Leu	Asp	Thr	Ala	Asn	Val	Glu	
				185					190					195	
Ala	Leu	Arg	Leu	Ala	Gly	Leu	Gly	Leu	Gln	Gln	Leu	Asp	Glu	Gly	
				200					205					210	
Leu	Phe	Ser	Arg	Leu	Arg	Asn	Leu	His	Asp	Leu	Asp	Val	Ser	Asp	
				215					220					225	
Asn	Gln	Leu	Glu	Arg	Val	Pro	Pro	Val	Ile	Arg	Gly	Leu	Arg	Gly	
				230					235					240	
Leu	Thr	Arg	Leu	Arg	Leu	Ala	Gly	Asn	Thr	Arg	Ile	Ala	Gln	Leu	
				245					250					255	
Arg	Pro	Glu	Asp	Leu	Ala	Gly	Leu	Ala	Ala	Leu	Gln	Glu	Leu	Asp	

00941992-000001

				260					265					270
Val	Ser	Asn	Leu	Ser 275	Leu	Gln	Ala	Leu	Pro 280	Gly	Asp	Leu	Ser	Gly 285
Leu	Phe	Pro	Arg	Leu 290	Arg	Leu	Leu	Ala	Ala 295	Ala	Arg	Asn	Pro	Phe 300
Asn	Cys	Val	Cys	Pro 305	Leu	Ser	Trp	Phe	Gly 310	Pro	Trp	Val	Arg	Glu 315
Ser	His	Val	Thr	Leu 320	Ala	Ser	Pro	Glu	Glu 325	Thr	Arg	Cys	His	Phe 330
Pro	Pro	Lys	Asn	Ala 335	Gly	Arg	Leu	Leu	Leu 340	Glu	Leu	Asp	Tyr	Ala 345
Asp	Phe	Gly	Cys	Pro 350	Ala	Thr	Thr	Thr	Thr 355	Ala	Thr	Val	Pro	Thr 360
Thr	Arg	Pro	Val	Val 365	Arg	Glu	Pro	Thr	Ala 370	Leu	Ser	Ser	Ser	Leu 375
Ala	Pro	Thr	Trp	Leu 380	Ser	Pro	Thr	Ala	Pro 385	Ala	Thr	Glu	Ala	Pro 390
Ser	Pro	Pro	Ser	Thr 395	Ala	Pro	Pro	Thr	Val 400	Gly	Pro	Val	Pro	Gln 405
Pro	Gln	Asp	Cys	Pro 410	Pro	Ser	Thr	Cys	Leu 415	Asn	Gly	Gly	Thr	Cys 420
His	Leu	Gly	Thr	Arg 425	His	His	Leu	Ala	Cys 430	Leu	Cys	Pro	Glu	Gly 435
Phe	Thr	Gly	Leu	Tyr 440	Cys	Glu	Ser	Gln	Met 445	Gly	Gln	Gly	Thr	Arg 450
Pro	Ser	Pro	Thr	Pro 455	Val	Thr	Pro	Arg	Pro 460	Pro	Arg	Ser	Leu	Thr 465
Leu	Gly	Ile	Glu	Pro 470	Val	Ser	Pro	Thr	Ser 475	Leu	Arg	Val	Gly	Leu 480
Gln	Arg	Tyr	Leu	Gln 485	Gly	Ser	Ser	Val	Gln 490	Leu	Arg	Ser	Leu	Arg 495
Leu	Thr	Tyr	Arg	Asn 500	Leu	Ser	Gly	Pro	Asp 505	Lys	Arg	Leu	Val	Thr 510
Leu	Arg	Leu	Pro	Ala 515	Ser	Leu	Ala	Glu	Tyr 520	Thr	Val	Thr	Gln	Leu 525
Arg	Pro	Asn	Ala	Thr 530	Tyr	Ser	Val	Cys	Val 535	Met	Pro	Leu	Gly	Pro 540
Gly	Arg	Val	Pro	Glu 545	Gly	Glu	Glu	Ala	Cys 550	Gly	Glu	Ala	His	Thr 555

Pro	Pro	Ala	Val	His	Ser	Asn	His	Ala	Pro	Val	Thr	Gln	Ala	Arg
				560					565					570
Glu	Gly	Asn	Leu	Pro	Leu	Leu	Ile	Ala	Pro	Ala	Leu	Ala	Ala	Val
				575					580					585
Leu	Leu	Ala	Ala	Leu	Ala	Ala	Val	Gly	Ala	Ala	Tyr	Cys	Val	Arg
				590					595					600
Arg	Gly	Arg	Ala	Met	Ala	Ala	Ala	Ala	Gln	Asp	Lys	Gly	Gln	Val
				605					610					615
Gly	Pro	Gly	Ala	Gly	Pro	Leu	Glu	Leu	Glu	Gly	Val	Lys	Val	Pro
				620					625					630
Leu	Glu	Pro	Gly	Pro	Lys	Ala	Thr	Glu	Gly	Gly	Gly	Glu	Ala	Leu
				635					640					645
Pro	Ser	Gly	Ser	Glu	Cys	Glu	Val	Pro	Leu	Met	Gly	Phe	Pro	Gly
				650					655					660
Pro	Gly	Leu	Gln	Ser	Pro	Leu	His	Ala	Lys	Pro	Tyr	Ile		
				665					670					

<210> 53  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 53  
 tcttcagccg cttgcgcaac ctc 23

<210> 54  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 54  
 ttgctcacat ccagctcctg cagg 24

<210> 55  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 55  
 tggatgttgt ccagacaacc agctggagct gtatccgagg c 41

<210> 56



<211> 3462  
<212> DNA  
<213> Homo sapiens

<400> 56

gaatcatcca cgcacctgca gctctgctga gagagtgcaa gccgtggggg 50  
ttttgagctc atcttcatca ttcatatgag gaaataagtg gtaaaatcct 100  
tggaataaca atgagactca tcagaaacat ttacatattt tgtagtattg 150  
ttatgacagc agaggggtgat gctccagagc tgccagaaga aagggaactg 200  
atgaccaact gctccaacat gtctctaaga aagggtcccg cagacttgac 250  
cccagccaca acgacactgg atttatccta taacctcctt tttcaactcc 300  
agagttcaga ttttcattct gtctccaaac tgagagtttt gattctatgc 350  
cataacagaa ttcaacagct ggatctcaaa acctttgaat tcaacaagga 400  
gttaagatat ttagatttgt ctaataacag actgaagagt gtaacttggt 450  
atttactggc aggtctcagg tatttagatc tttcttttaa tgactttgac 500  
accatgccta tctgtgagga agctggcaac atgtcacacc tggaaatcct 550  
aggtttgagt ggggcaaaaa taaaaaatc agatttccag aaaattgctc 600  
atctgcatct aaatactgtc ttcttaggat tcagaactct tcctcattat 650  
gaagaaggta gcctgcccac cttaaacaca aaaaaactgc acattgtttt 700  
accaatggac acaaatttct gggttctttt gcgtgatgga atcaagactt 750  
caaaaatatt agaaatgaca aatatagatg gcaaaagcca atttgtaagt 800  
tatgaaatgc aacgaaatct tagtttagaa aatgctaaga catcggttct 850  
attgcttaat aaagttgatt tactctggga cgaccttttc cttatcttac 900  
aatttgtttg gcatacatca gtggaacact ttcagatccg aaatgtgact 950  
tttggtggtg aggcttatct tgaccacaat tcatttgact actcaaatac 1000  
tgtaatgaga actataaaat tggagcatgt acatttcaga gtgttttaca 1050  
ttcaacagga taaaatctat ttgcttttga ccaaaatgga catagaaaac 1100  
ctgacaatat caaatgcaca aatgccacac atgcttttcc cgaattatcc 1150  
tacgaaattc caatatttaa attttgccaa taatatctta acagacgagt 1200  
tgttttaaag aactatccaa ctgcctcact tgaaaactct cattttgaat 1250  
ggcaataaac tggagacact ttcttttagta agttgctttg ctaacaacac 1300  
acccttgga cacttggatc tgagtcaaaa tctattacaa cataaaaatg 1350

atgaaaattg ctcatggcca gaaactgtgg tcaatatgaa tctgtcatac 1400  
 aataaattgt ctgattctgt cttcaggtgc ttgccccaaa gtattcaaatt 1450  
 acttgaccta aataataacc aaatccaaac tgtacctaaa gagactattc 1500  
 atctgatggc cttacgagaa ctaaattattg catttaattt tctaactgat 1550  
 ctccctggat gcagtcattt cagtagactt tcagttctga acattgaaat 1600  
 gaacttcatt ctcagcccat ctctggattt tggtcagagc tgccaggaag 1650  
 ttaaaactct aaatgcggga agaaatccat tccggtgtac ctgtgaatta 1700  
 aaaaatttca ttcagcttga aacatattca gaggtcatga tgggtggatg 1750  
 gtcagattca tacacctgtg aatacccttt aaacctaagg ggaactaggt 1800  
 taaaagacgt tcatctccac gaattatctt gcaacacagc tctgttgatt 1850  
 gtcaccattg tgggtattat gctagttctg ggggttggtg tggccttctg 1900  
 ctgtctccac tttgatctgc cctgggtatct caggatgcta ggtcaatgca 1950  
 cacaaacatg gcacagggtt agggaaaaca cccaagaaca actcaagaga 2000  
 aatgtccgat tccacgcatt tatttcatac agtgaacatg attctctgtg 2050  
 ggtgaagaat gaattgatcc ccaatctaga gaaggaagat ggttctatct 2100  
 tgatttgcct ttatgaaagc tactttgacc ctggcaaaaag cattagtga 2150  
 aatattgtaa gcttcattga gaaaagctat aagtccatct ttgttttgtc 2200  
 tcccaacttt gtccagaatg agtgggtgcca ttatgaattc tactttgccc 2250  
 accacaatct cttccatgaa aattctgatc atataattct tatcttactg 2300  
 gaaccattc cattctattg cattcccacc aggtatcata aactgaaagc 2350  
 tctcctggaa aaaaaagcat acttggaatg gcccaaggat aggcgtaaat 2400  
 gtgggctttt ctgggcaaac cttcgagctg ctattaatgt taatgtatta 2450  
 gccaccagag aaatgtatga actgcagaca ttcacagagt taaatgaaga 2500  
 gtctcgaggt tctacaatct ctctgatgag aacagattgt ctataaaatc 2550  
 ccacagtcct tgggaagttg gggaccacat aactggttg gatgtacatt 2600  
 gataaacct ttatgatggc aatttgacaa tatttattaa aataaaaaat 2650  
 gggtattccc ttcatatcag tttctagaag gatttctaag aatgtatcct 2700  
 atagaaacac cttcacaagt ttataagggc ttatggaaaa aggtgttcat 2750  
 cccaggattg ttataatca tgaaaaatgt ggccaggtgc agtggctcac 2800

tcttgtaatc ccagcactat gggaggccaa ggtgggtgac ccacgaggtc 2850  
aagagatgga gaccatcctg gccaacatgg tgaaaccctg tctctactaa 2900  
aaatacaaaa attagctggg cgtgatgggtg cacgcctgta gtcccagcta 2950  
cttggggaggc tgaggcagga gaatcgcttg aaccggggag gtggcagttg 3000  
cagtgaactg agatcgagcc actgcactcc agcctgggtga cagagcgaga 3050  
ctccatctca aaaaaaagaa aaaaaaaaaa gaaaaaaatg gaaaacatcc 3100  
tcatggccac aaaataaggt ctaattcaat aaattatagt acattaatgt 3150  
aatataatat tacatgccac taaaaagaat aaggtagctg tatatttcct 3200  
ggtatggaaa aaacatatta atatgttata aactattagg ttggtgcaaa 3250  
actaattgtg gtttttgcca ttgaaatggc attgaaataa aagtgtaaag 3300  
aaatctatac cagatgtagt aacagtgggtt tgggtctggg aggttggatt 3350  
acaggagca tttgatttct atgttggtga tttctataat gtttgaattg 3400  
tttagaatga atctgtattt cttttataag tagaaaaaaa ataaagatag 3450  
tttttacagc ct 3462

<210> 57  
<211> 811  
<212> PRT  
<213> Homo sapiens

<400> 57  
Met Arg Leu Ile Arg Asn Ile Tyr Ile Phe Cys Ser Ile Val Met  
1 5 10 15  
Thr Ala Glu Gly Asp Ala Pro Glu Leu Pro Glu Glu Arg Glu Leu  
20 25 30  
Met Thr Asn Cys Ser Asn Met Ser Leu Arg Lys Val Pro Ala Asp  
35 40 45  
Leu Thr Pro Ala Thr Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu  
50 55 60  
Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg  
65 70 75  
Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys  
80 85 90  
Thr Phe Glu Phe Asn Lys Glu Leu Arg Tyr Leu Asp Leu Ser Asn  
95 100 105  
Asn Arg Leu Lys Ser Val Thr Trp Tyr Leu Leu Ala Gly Leu Arg  
110 115 120

Tyr	Leu	Asp	Leu	Ser	Phe	Asn	Asp	Phe	Asp	Thr	Met	Pro	Ile	Cys	
				125					130					135	
Glu	Glu	Ala	Gly	Asn	Met	Ser	His	Leu	Glu	Ile	Leu	Gly	Leu	Ser	
				140					145					150	
Gly	Ala	Lys	Ile	Gln	Lys	Ser	Asp	Phe	Gln	Lys	Ile	Ala	His	Leu	
				155					160					165	
His	Leu	Asn	Thr	Val	Phe	Leu	Gly	Phe	Arg	Thr	Leu	Pro	His	Tyr	
				170					175					180	
Glu	Glu	Gly	Ser	Leu	Pro	Ile	Leu	Asn	Thr	Thr	Lys	Leu	His	Ile	
				185					190					195	
Val	Leu	Pro	Met	Asp	Thr	Asn	Phe	Trp	Val	Leu	Leu	Arg	Asp	Gly	
				200					205					210	
Ile	Lys	Thr	Ser	Lys	Ile	Leu	Glu	Met	Thr	Asn	Ile	Asp	Gly	Lys	
				215					220					225	
Ser	Gln	Phe	Val	Ser	Tyr	Glu	Met	Gln	Arg	Asn	Leu	Ser	Leu	Glu	
				230					235					240	
Asn	Ala	Lys	Thr	Ser	Val	Leu	Leu	Leu	Asn	Lys	Val	Asp	Leu	Leu	
				245					250					255	
Trp	Asp	Asp	Leu	Phe	Leu	Ile	Leu	Gln	Phe	Val	Trp	His	Thr	Ser	
				260					265					270	
Val	Glu	His	Phe	Gln	Ile	Arg	Asn	Val	Thr	Phe	Gly	Gly	Lys	Ala	
				275					280					285	
Tyr	Leu	Asp	His	Asn	Ser	Phe	Asp	Tyr	Ser	Asn	Thr	Val	Met	Arg	
				290					295					300	
Thr	Ile	Lys	Leu	Glu	His	Val	His	Phe	Arg	Val	Phe	Tyr	Ile	Gln	
				305					310					315	
Gln	Asp	Lys	Ile	Tyr	Leu	Leu	Leu	Thr	Lys	Met	Asp	Ile	Glu	Asn	
				320					325					330	
Leu	Thr	Ile	Ser	Asn	Ala	Gln	Met	Pro	His	Met	Leu	Phe	Pro	Asn	
				335					340					345	
Tyr	Pro	Thr	Lys	Phe	Gln	Tyr	Leu	Asn	Phe	Ala	Asn	Asn	Ile	Leu	
				350					355					360	
Thr	Asp	Glu	Leu	Phe	Lys	Arg	Thr	Ile	Gln	Leu	Pro	His	Leu	Lys	
				365					370					375	
Thr	Leu	Ile	Leu	Asn	Gly	Asn	Lys	Leu	Glu	Thr	Leu	Ser	Leu	Val	
				380					385					390	
Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
				395					400					405	
Gln	Asn	Leu	Leu	Gln	His	Lys	Asn	Asp	Glu	Asn	Cys	Ser	Trp	Pro	

410										415					420				
Glu	Thr	Val	Val	Asn	Met	Asn	Leu	Ser	Tyr	Asn	Lys	Leu	Ser	Asp					
				425					430					435					
Ser	Val	Phe	Arg	Cys	Leu	Pro	Lys	Ser	Ile	Gln	Ile	Leu	Asp	Leu					
				440					445					450					
Asn	Asn	Asn	Gln	Ile	Gln	Thr	Val	Pro	Lys	Glu	Thr	Ile	His	Leu					
				455					460					465					
Met	Ala	Leu	Arg	Glu	Leu	Asn	Ile	Ala	Phe	Asn	Phe	Leu	Thr	Asp					
				470					475					480					
Leu	Pro	Gly	Cys	Ser	His	Phe	Ser	Arg	Leu	Ser	Val	Leu	Asn	Ile					
				485					490					495					
Glu	Met	Asn	Phe	Ile	Leu	Ser	Pro	Ser	Leu	Asp	Phe	Val	Gln	Ser					
				500					505					510					
Cys	Gln	Glu	Val	Lys	Thr	Leu	Asn	Ala	Gly	Arg	Asn	Pro	Phe	Arg					
				515					520					525					
Cys	Thr	Cys	Glu	Leu	Lys	Asn	Phe	Ile	Gln	Leu	Glu	Thr	Tyr	Ser					
				530					535					540					
Glu	Val	Met	Met	Val	Gly	Trp	Ser	Asp	Ser	Tyr	Thr	Cys	Glu	Tyr					
				545					550					555					
Pro	Leu	Asn	Leu	Arg	Gly	Thr	Arg	Leu	Lys	Asp	Val	His	Leu	His					
				560					565					570					
Glu	Leu	Ser	Cys	Asn	Thr	Ala	Leu	Leu	Ile	Val	Thr	Ile	Val	Val					
				575					580					585					
Ile	Met	Leu	Val	Leu	Gly	Leu	Ala	Val	Ala	Phe	Cys	Cys	Leu	His					
				590					595					600					
Phe	Asp	Leu	Pro	Trp	Tyr	Leu	Arg	Met	Leu	Gly	Gln	Cys	Thr	Gln					
				605					610					615					
Thr	Trp	His	Arg	Val	Arg	Lys	Thr	Thr	Gln	Glu	Gln	Leu	Lys	Arg					
				620					625					630					
Asn	Val	Arg	Phe	His	Ala	Phe	Ile	Ser	Tyr	Ser	Glu	His	Asp	Ser					
				635					640					645					
Leu	Trp	Val	Lys	Asn	Glu	Leu	Ile	Pro	Asn	Leu	Glu	Lys	Glu	Asp					
				650					655					660					
Gly	Ser	Ile	Leu	Ile	Cys	Leu	Tyr	Glu	Ser	Tyr	Phe	Asp	Pro	Gly					
				665					670					675					
Lys	Ser	Ile	Ser	Glu	Asn	Ile	Val	Ser	Phe	Ile	Glu	Lys	Ser	Tyr					
				680					685					690					
Lys	Ser	Ile	Phe	Val	Leu	Ser	Pro	Asn	Phe	Val	Gln	Asn	Glu	Trp					
				695					700					705					

Cys	His	Tyr	Glu	Phe	Tyr	Phe	Ala	His	His	Asn	Leu	Phe	His	Glu	
				710					715					720	
Asn	Ser	Asp	His	Ile	Ile	Leu	Ile	Leu	Leu	Glu	Pro	Ile	Pro	Phe	
				725					730					735	
Tyr	Cys	Ile	Pro	Thr	Arg	Tyr	His	Lys	Leu	Lys	Ala	Leu	Leu	Glu	
				740					745					750	
Lys	Lys	Ala	Tyr	Leu	Glu	Trp	Pro	Lys	Asp	Arg	Arg	Lys	Cys	Gly	
				755					760					765	
Leu	Phe	Trp	Ala	Asn	Leu	Arg	Ala	Ala	Ile	Asn	Val	Asn	Val	Leu	
				770					775					780	
Ala	Thr	Arg	Glu	Met	Tyr	Glu	Leu	Gln	Thr	Phe	Thr	Glu	Leu	Asn	
				785					790					795	
Glu	Glu	Ser	Arg	Gly	Ser	Thr	Ile	Ser	Leu	Met	Arg	Thr	Asp	Cys	
				800					805					810	

Leu

<210> 58  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 58  
 tcccaccagg tatcataaac tgaa 24

<210> 59  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 59  
 ttatagacaa tctgttctca tcagaga 27

<210> 60  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 60  
 aaaaagcata cttggaatgg cccaaggata ggtgtaaag 40

<210> 61

<211> 3772  
 <212> DNA  
 <213> Homo sapiens

<400> 61  
 gggggctttc ttgggcttgg ctgcttggaa cacctgcctc caaggaccgg 50  
 cctcggaggg gtcgccgga aaggaggga agaaggaagg gcggggccgg 100  
 cccccctgcg cccgccccgc gcctctgcg gcccctgtcc gccccggccc 150  
 agcccagccc agccccgcgg gccggtcaca cgcgcagcca gccggccgccc 200  
 tcccgcgccc aagcgcgccc ctctgctgtg ccctgcgccc ttgccccgcg 250  
 ccagcttctg cgccccgcagc ccgccccggcg cccccggtga ccgtgaccct 300  
 gccctggggcg cggggcggag caggcatgtc ccgccccggg accgctaccc 350  
 cagcgtctggc cctggtgctc ctggcagtga ccctggccgg ggtcggagcc 400  
 cagggcgagc ccctcgagga ccctgattat tacgggcagg agatctggag 450  
 ccgggagccc tactacgcgc gcccgagacc cgagctcgag accttctctc 500  
 cgccgctgcc tgcggggccc ggggaggagt gggagcggcg cccgcaggag 550  
 cccaggccgc ccaagagggc caccaagccc aagaaagctc ccaagagga 600  
 gaagtcggct ccggagccgc ctccaccagg taaacacagc aacaaaaaag 650  
 ttatgagaac caagagctct gagaaggctg ccaacgatga tcacagtgtc 700  
 cgtgtggccc gtgaagatgt cagagagagt tgcccacctc ttggtctgga 750  
 aaccttaaaa atcacagact tccagctcca tgcctccacg gtgaagcgt 800  
 atggcctggg ggcacatcga gggagactca acatccaggc gggcattaat 850  
 gaaaatgatt tttatgacgg agcgtggtgc gcgggaagaa atgacctcca 900  
 gcagtggatt gaagtggatg ctcggcgcct gaccagattc actggtgtca 950  
 tcaactcaagg gaggaactcc ctctggctga gtgactgggt gacatcctat 1000  
 aaggatcatg tgagcaatga cagccacacg tgggtcactg ttaagaatgg 1050  
 atctggagac atgatatttg agggaaacag tgagaaggag atccctgttc 1100  
 tcaatgagct acccgcccc atggtggccc gctacatccg cataaaccct 1150  
 cagtccctgg ttgataatgg gagcatctgc atgagaatgg agatcctggg 1200  
 ctgcccactg ccagatccta ataattatta tcaccgccgg aacgagatga 1250  
 ccaccactga tgacctggat tttaagcacc acaattataa ggaaatgcgc 1300  
 cagttgatga aagttgtgaa tgaaatgtgt cccaatatca ccagaattta 1350

caacattgga aaaagccacc agggcctgaa gctgtatgct gtggagatct 1400  
 cagatcaccc tggggagcat gaagtcggtg agcccagatt ccactacatc 1450  
 gcggggggccc acggcaatga ggtgctgggc cgggagctgc tgctgctgct 1500  
 ggtgcagttc gtgtgtcagg agtacttggc ccggaatgcg cgcacgtcc 1550  
 acctggtgga ggagacgcgg attcacgtcc tcccctccct caaccccgat 1600  
 ggctacgaga aggcctacga agggggctcg gagctgggag gctggtccct 1650  
 gggacgctgg acccacgatg gaattgacat caacaacaac tttcctgatt 1700  
 taaacacgct gctctgggag gcagaggatc gacagaatgt ccccaggaaa 1750  
 gttcccaatc actatattgc aatccctgag tggtttctgt cggaaaatgc 1800  
 cacggtggct gccgagacca gagcagtcac agcctggatg gaaaaaatcc 1850  
 cttttgtgct gggcggcaac ctgcagggcg gcgagctggt ggtggcgtat 1900  
 ccctacgacc tgggtgcggtc ccctggaag acgcaggaac acacccccac 1950  
 ccccgatgac cacgtgttcc gctggctggc ctactcctat gcctccacac 2000  
 accgcctcat gacagacgcc cggaggaggg tgtgccacac ggaggacttc 2050  
 cagaaggagg agggcactgt caatggggcc tctggcaca ccgtcgctgg 2100  
 aagtctgaac gatttcagct accttcatac aaactgcttc gaactgtcca 2150  
 tctacgtggg ctgtgataaa taccacatg agagccagct gcccgaggag 2200  
 tgggagaata accgggaatc tctgatcgtg ttcattggagc aggttcacg 2250  
 tggcattaaa ggcttgggta gagattcaca tggaaaagga atcccaaacg 2300  
 ccattatctc cgtagaaggc attaacatg acatccgaac agccaacgat 2350  
 ggggattact ggcgctcct gaaccctgga gagtatgtgg tcacagcaaa 2400  
 ggccgaaggt ttcactgcat ccaccaagaa ctgtatggtt ggctatgaca 2450  
 tggggggccac aaggtgtgac ttcacactta gcaaaaccaa catggccagg 2500  
 atccgagaga tcatggagaa gtttgggaag cagcccgtca gcctgccagc 2550  
 caggcggctg aagctgcggg ggcggaagag acgacagcgt gggtgaccct 2600  
 cctggggcctt tgagactcgt ctgggaccca tgcaaattaa accaacctgg 2650  
 tagtagctcc atagtggact cactcactgt tgtttcctct gtaattcaag 2700  
 aagtgcctgg aagagagggt gcattgtgag gcagggtcca aaagggaagg 2750  
 ctggaggctg aggctgtttt cttttctttg ttccattta tccaaataac 2800



ttggacagag cagcagagaa aagctgatgg gagtgagaga actcagcaag 2850  
ccaacctggg aatcagagag agaaggagaa ggaggggagc ctgtccgttc 2900  
agagcctctg gctgcataga aaaggattct ggtgcttccc ctgtttgcgt 2950  
ggcagcaagg gttccacgtg catttgcaat ttgcacagct aaaattgcag 3000  
catttcccc a gctgggctgt cccaaatgtt accatttgag atgctcccag 3050  
gcgtcctaag agaatccacc ctctctggcc ctgggacatt gcaagctgct 3100  
acaaataaat tctgtgttct ttgacaata gcgtcattgc caagtgcaca 3150  
tcagtgaagc tcttgaatct gtttagtctc ctttttcaac aaaggagtgt 3200  
gttcagaaaa ggagagagag gctgagatca ttcaggagt tgttgggcag 3250  
caagcatgga gcttcttgca caaattctgg gtccataaac aacccccaaa 3300  
gtccctgctg atccagtagc cctggaggtt cccaggtag ggagagccag 3350  
aggtgccagc cttcctgaag ggccagaaaa tttagcctgg atctcctctt 3400  
ttacctgcta ggactggaaa gagccagaag tgggggtggc tgaagccctc 3450  
tctctgcttg aggtattgcc cctgtgtgga attgagtgc catgggttgg 3500  
cctcatatca gcctgggagt tatttttgat atgtagaatg ccagatcttc 3550  
cagattaggc taaatgtaat gaaaacctct taggattatc tgtggagcat 3600  
cagtttggga agaattattg aattatcttg caagaaaaaa gtatgtctca 3650  
ctttttgtta atgttgctgc ctcatgacc tgggaaaaat gaaaaaaaaa 3700  
aataaagcaa atggtaagac ctttaaaaaa aaaaaaaaaa aaaaaaaaaa 3750  
aaaaaaaaa aaaaaaaaaa aa 3772

<210> 62  
<211> 756  
<212> PRT  
<213> Homo sapiens

<400> 62  
Met Ser Arg Pro Gly Thr Ala Thr Pro Ala Leu Ala Leu Val Leu  
1 5 10 15  
Leu Ala Val Thr Leu Ala Gly Val Gly Ala Gln Gly Ala Ala Leu  
20 25 30  
Glu Asp Pro Asp Tyr Tyr Gly Gln Glu Ile Trp Ser Arg Glu Pro  
35 40 45  
Tyr Tyr Ala Arg Pro Glu Pro Glu Leu Glu Thr Phe Ser Pro Pro  
50 55 60

Leu	Pro	Ala	Gly	Pro	Gly	Glu	Glu	Trp	Glu	Arg	Arg	Pro	Gln	Glu		65	70	75
Pro	Arg	Pro	Pro	Lys	Arg	Ala	Thr	Lys	Pro	Lys	Lys	Ala	Pro	Lys		80	85	90
Arg	Glu	Lys	Ser	Ala	Pro	Glu	Pro	Pro	Pro	Pro	Gly	Lys	His	Ser		95	100	105
Asn	Lys	Lys	Val	Met	Arg	Thr	Lys	Ser	Ser	Glu	Lys	Ala	Ala	Asn		110	115	120
Asp	Asp	His	Ser	Val	Arg	Val	Ala	Arg	Glu	Asp	Val	Arg	Glu	Ser		125	130	135
Cys	Pro	Pro	Leu	Gly	Leu	Glu	Thr	Leu	Lys	Ile	Thr	Asp	Phe	Gln		140	145	150
Leu	His	Ala	Ser	Thr	Val	Lys	Arg	Tyr	Gly	Leu	Gly	Ala	His	Arg		155	160	165
Gly	Arg	Leu	Asn	Ile	Gln	Ala	Gly	Ile	Asn	Glu	Asn	Asp	Phe	Tyr		170	175	180
Asp	Gly	Ala	Trp	Cys	Ala	Gly	Arg	Asn	Asp	Leu	Gln	Gln	Trp	Ile		185	190	195
Glu	Val	Asp	Ala	Arg	Arg	Leu	Thr	Arg	Phe	Thr	Gly	Val	Ile	Thr		200	205	210
Gln	Gly	Arg	Asn	Ser	Leu	Trp	Leu	Ser	Asp	Trp	Val	Thr	Ser	Tyr		215	220	225
Lys	Val	Met	Val	Ser	Asn	Asp	Ser	His	Thr	Trp	Val	Thr	Val	Lys		230	235	240
Asn	Gly	Ser	Gly	Asp	Met	Ile	Phe	Glu	Gly	Asn	Ser	Glu	Lys	Glu		245	250	255
Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val	Pro	Met	Val	Ala	Arg	Tyr		260	265	270
Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly	Ser	Ile	Cys		275	280	285
Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro	Asn	Asn		290	295	300
Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu	Asp		305	310	315
Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Leu	Met	Lys	Val		320	325	330
Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly		335	340	345
Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp				

102220 2564660

	350		355		360
His Pro Gly Glu	His Glu Val Gly Glu	Pro Glu Phe His Tyr	Ile		
365		370	375		
Ala Gly Ala His	Gly Asn Glu Val Leu	Gly Arg Glu Leu Leu	Leu		
380		385	390		
Leu Leu Val Gln	Phe Val Cys Gln Glu	Tyr Leu Ala Arg Asn	Ala		
395		400	405		
Arg Ile Val His	Leu Val Glu Glu Thr	Arg Ile His Val Leu	Pro		
410		415	420		
Ser Leu Asn Pro	Asp Gly Tyr Glu Lys	Ala Tyr Glu Gly Gly	Ser		
425		430	435		
Glu Leu Gly Gly	Trp Ser Leu Gly Arg	Trp Thr His Asp Gly	Ile		
440		445	450		
Asp Ile Asn Asn	Asn Phe Pro Asp Leu	Asn Thr Leu Leu Trp	Glu		
455		460	465		
Ala Glu Asp Arg	Gln Asn Val Pro Arg	Lys Val Pro Asn His	Tyr		
470		475	480		
Ile Ala Ile Pro	Glu Trp Phe Leu Ser	Glu Asn Ala Thr Val	Ala		
485		490	495		
Ala Glu Thr Arg	Ala Val Ile Ala Trp	Met Glu Lys Ile Pro	Phe		
500		505	510		
Val Leu Gly Gly	Asn Leu Gln Gly Gly	Glu Leu Val Val Ala	Tyr		
515		520	525		
Pro Tyr Asp Leu	Val Arg Ser Pro Trp	Lys Thr Gln Glu His	Thr		
530		535	540		
Pro Thr Pro Asp	Asp His Val Phe Arg	Trp Leu Ala Tyr Ser	Tyr		
545		550	555		
Ala Ser Thr His	Arg Leu Met Thr Asp	Ala Arg Arg Arg Val	Cys		
560		565	570		
His Thr Glu Asp	Phe Gln Lys Glu Glu	Gly Thr Val Asn Gly	Ala		
575		580	585		
Ser Trp His Thr	Val Ala Gly Ser Leu	Asn Asp Phe Ser Tyr	Leu		
590		595	600		
His Thr Asn Cys	Phe Glu Leu Ser Ile	Tyr Val Gly Cys Asp	Lys		
605		610	615		
Tyr Pro His Glu	Ser Gln Leu Pro Glu	Glu Trp Glu Asn Asn	Arg		
620		625	630		
Glu Ser Leu Ile	Val Phe Met Glu Gln	Val His Arg Gly Ile	Lys		
635		640	645		

Gly Leu Val Arg Asp Ser His Gly Lys Gly Ile Pro Asn Ala Ile  
 650 655 660  
 Ile Ser Val Glu Gly Ile Asn His Asp Ile Arg Thr Ala Asn Asp  
 665 670 675  
 Gly Asp Tyr Trp Arg Leu Leu Asn Pro Gly Glu Tyr Val Val Thr  
 680 685 690  
 Ala Lys Ala Glu Gly Phe Thr Ala Ser Thr Lys Asn Cys Met Val  
 695 700 705  
 Gly Tyr Asp Met Gly Ala Thr Arg Cys Asp Phe Thr Leu Ser Lys  
 710 715 720  
 Thr Asn Met Ala Arg Ile Arg Glu Ile Met Glu Lys Phe Gly Lys  
 725 730 735  
 Gln Pro Val Ser Leu Pro Ala Arg Arg Leu Lys Leu Arg Gly Arg  
 740 745 750  
 Lys Arg Arg Gln Arg Gly  
 755

<210> 63  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 63  
 gttctcaatg agctaccggt cccc 24

<210> 64  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 64  
 cgcgatgtag tggaactcgg gctc 24

<210> 65  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 65  
 atccgcataa accctcagtc ctggtttgat aatgggagca tctgcatgag 50

<210> 66

<211> 2854  
<212> DNA  
<213> Homo sapiens

<400> 66  
ctaagaggac aagatgaggc ccggcctctc atttctccta gcccttctgt 50  
tcttccttgg ccaagctgca ggggatttgg gggatgtggg acctccaatt 100  
cccagccccg gcttcagctc tttcccaggt gttgactcca gctccagctt 150  
cagctccagc tccaggctcg gctccagctc cagccgcagc ttaggcagcg 200  
gaggttctgt gtcccagttg ttttccaatt tcaccggctc cgtggatgac 250  
cgtgggacct gccagtgtc tgtttccctg ccagacacca cctttcccgt 300  
ggacagagtg gaacgcttgg aattcacagc tcatgttctt tctcagaagt 350  
ttgagaaaaga actttctaaa gtgagggaat atgtccaatt aattagtgtg 400  
tatgaaaaga aactgttaaa cctaactgtc cgaattgaca tcatggagaa 450  
ggataccatt tcttactctg aactggactt cgagctgac aaggtagaag 500  
tgaaggagat ggaaaaactg gtcatacagc tgaaggagag ttttggtgga 550  
agctcagaaa ttgttgacca gctggaggtg gagataagaa atatgactct 600  
cttggtagag aagcttgaga cactagacaa aaacaatgtc cttgccattc 650  
gccgagaaat cgtggctctg aagaccaagc tgaaagagtg tgaggcctct 700  
aaagatcaaa acaccctgt cgtccaccct cctcccactc cagggagctg 750  
tggatcatgt ggtgtggtga acatcagcaa accgtctgtg gttcagctca 800  
actggagagg gttttcttat ctatatggtg cttggggtag ggattactct 850  
ccccagcatc caaacaaggg actgtattgg gtggcgccat tgaatacaga 900  
tgaggagactg ttggagtatt atagactgta caacacactg gatgatttgc 950  
tattgtatat aaatgctcga gagttgcgga tcacctatgg ccaaggtagt 1000  
ggtacagcag ttacaacaa caacatgtac gtcaacatgt acaacaccgg 1050  
gaatattgcc agagttaacc tgaccaccaa cacgattgct gtgactcaaa 1100  
ctctccctaa tgctgcctat aataaccgct tttcatatgc taatgttgct 1150  
tggcaagata ttgactttgc tgtggatgag aatggattgt gggttattta 1200  
ttcaactgaa gccagcactg gtaacatggt gattagtaaa ctcaatgaca 1250  
ccacacttca ggtgctaaac acttggtata ccaagcagta taaaccatct 1300  
gcttctaacg ccttcatggt atgtgggggt ctgtatgcc cccgtactat 1350

gaacaccaga acagaagaga ttttttacta ttatgacaca aacacagggga 1400  
aagagggcaa actagacatt gtaatgcata agatgcagga aaaagtgcag 1450  
agcattaact ataacccttt tgaccagaaa ctttatgtct ataacgatgg 1500  
ttaccttctg aattatgac tttctgtctt gcagaagccc cagtaagctg 1550  
tttaggagtt aggggtgaaag agaaaatggt tgttgaaaaa atagtcttct 1600  
ccacttactt agatatctgc aggggtgtct aaaagtgtgt tcattttgca 1650  
gcaatgttta ggtgcatagt tctaccacac tagagatcta ggacatttgt 1700  
cttgatttgg tgagttctct tgggaatcat ctgcctcttc aggcgcattt 1750  
tgcaataaag tctgtctagg gtgggattgt cagaggtcta ggggcactgt 1800  
gggcctagtg aagcctactg tgaggaggct tcactagaag ccttaaatta 1850  
ggaattaagg aacttaaaac tcagtatggc gtctagggat tctttgtaca 1900  
ggaaatattg cccaatgact agtcctcatc catgtagcac cactaattct 1950  
tccatgcctg gaagaaacct ggggacttag ttaggtagat taatatctgg 2000  
agtcctcga gggaccaaact ctccaacttt ttttcccct cactagcacc 2050  
tggaatgatg ctttgtatgt ggcagataag taaatttggc atgcttatat 2100  
attctacatc tgtaaagtgc tgagttttat ggagagaggc ctttttatgc 2150  
attaaattgt acatggcaaa taaatcccag aaggatctgt agatgaggca 2200  
cctgcttttt cttttctctc attgtccacc ttactaaaag tcagtagaat 2250  
cttctacctc ataacttcct tccaaaggca gctcagaaga ttagaaccag 2300  
acttactaac caattccacc cccaccaac ccccttctac tgcctacttt 2350  
aaaaaaatta atagttttct atggaactga tctaagatta gaaaaattaa 2400  
ttttctttaa tttcattatg gacttttatt tacatgactc taagactata 2450  
agaaaatctg atggcagtga caaagtgcta gcatttattg ttatctaata 2500  
aagaccttgg agcatatgtg caacttatga gtgtatcagt tgttgcatgt 2550  
aatttttggc tttgtttaag cctggaactt gtaagaaaat gaaaatttaa 2600  
tttttttttc taggacgagc tatagaaaag ctattgagag tatctagtta 2650  
atcagtgcag tagttgaaa ccttgctggt gtatgtgatg tgcttctgtg 2700  
cttttgaatg actttatcat ctagtctttg tctatttttc ctttgatgtt 2750  
caagtcctag tctataggat tggcagttta aatgctttac tccccctttt 2800



Pro	Thr	Pro	Gly	Ser 245	Cys	Gly	His	Gly	Gly 250	Val	Val	Asn	Ile	Ser 255
Lys	Pro	Ser	Val	Val 260	Gln	Leu	Asn	Trp	Arg 265	Gly	Phe	Ser	Tyr	Leu 270
Tyr	Gly	Ala	Trp	Gly 275	Arg	Asp	Tyr	Ser	Pro 280	Gln	His	Pro	Asn	Lys 285
Gly	Leu	Tyr	Trp	Val 290	Ala	Pro	Leu	Asn	Thr 295	Asp	Gly	Arg	Leu	Leu 300
Glu	Tyr	Tyr	Arg	Leu 305	Tyr	Asn	Thr	Leu	Asp 310	Asp	Leu	Leu	Leu	Tyr 315
Ile	Asn	Ala	Arg	Glu 320	Leu	Arg	Ile	Thr	Tyr 325	Gly	Gln	Gly	Ser	Gly 330
Thr	Ala	Val	Tyr	Asn 335	Asn	Asn	Met	Tyr	Val 340	Asn	Met	Tyr	Asn	Thr 345
Gly	Asn	Ile	Ala	Arg 350	Val	Asn	Leu	Thr	Thr 355	Asn	Thr	Ile	Ala	Val 360
Thr	Gln	Thr	Leu	Pro 365	Asn	Ala	Ala	Tyr	Asn 370	Asn	Arg	Phe	Ser	Tyr 375
Ala	Asn	Val	Ala	Trp 380	Gln	Asp	Ile	Asp	Phe 385	Ala	Val	Asp	Glu	Asn 390
Gly	Leu	Trp	Val	Ile 395	Tyr	Ser	Thr	Glu	Ala 400	Ser	Thr	Gly	Asn	Met 405
Val	Ile	Ser	Lys	Leu 410	Asn	Asp	Thr	Thr	Leu 415	Gln	Val	Leu	Asn	Thr 420
Trp	Tyr	Thr	Lys	Gln 425	Tyr	Lys	Pro	Ser	Ala 430	Ser	Asn	Ala	Phe	Met 435
Val	Cys	Gly	Val	Leu 440	Tyr	Ala	Thr	Arg	Thr 445	Met	Asn	Thr	Arg	Thr 450
Glu	Glu	Ile	Phe	Tyr 455	Tyr	Tyr	Asp	Thr	Asn 460	Thr	Gly	Lys	Glu	Gly 465
Lys	Leu	Asp	Ile	Val 470	Met	His	Lys	Met	Gln 475	Glu	Lys	Val	Gln	Ser 480
Ile	Asn	Tyr	Asn	Pro 485	Phe	Asp	Gln	Lys	Leu 490	Tyr	Val	Tyr	Asn	Asp 495
Gly	Tyr	Leu	Leu	Asn 500	Tyr	Asp	Leu	Ser	Val 505	Leu	Gln	Lys	Pro	Gln 510

```
<210> 68
<211> 410
<212> DNA
<213> Homo sapiens
```



<220>  
 <221> unsure  
 <222> 206, 217, 387  
 <223> unknown base

<400> 68  
 gctctgaaga ccaagctgaa agagtgtgag gcctctaaag atcaaacacc 50  
 cctgtcgtcc accctcctcc cactccaggg agctgtgggtc atgggtggtgt 100  
 ggtgaacatc agcaaaccgt ctgtgggttca gctcaactgg agagggtttt 150  
 cttatctata tgggtgcttgg ggtagggatt actctcccca gcatccaaac 200  
 aaagggnatgt attgggnnggc gccattgaat acagatggga gactgttgga 250  
 gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300  
 ctcgagagtt gcggatcacc tatggccaag gtagtggtac agcagtttac 350  
 aacaacaaca tgtacgtcaa catgtacaac accgggnata ttgccagagt 400  
 taacctgacc 410

<210> 69  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 69  
 agctgtgggtc atgggtggtgt ggtg 24

<210> 70  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 70  
 ctaccttggc cataggtgat ccgc 24

<210> 71  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 71  
 catcagcaaa ccgtctgtgg ttcagctcaa ctggagaggg tt 42

<210> 72

<211> 3127  
<212> DNA  
<213> Homo sapiens

<400> 72  
tctcgcagat agtaaataat ctcggaaaagg cgagaaaagaa gctgtctcca 50  
tcttgtctgt atccgctgct cttgtgacgt tgtggagatg gggagcgtcc 100  
tggggctgtg ctccatggcg agctggatac catgtttgtg tggaagtgcc 150  
ccgtgtttgc tatgccgatg ctgtcctagt ggaaacaact ccactgtaac 200  
tagattgatc tatgcacttt tcttgcttgt tggagtatgt gtagcttgtg 250  
taatgttgat accaggaatg gaagaacaac tgaataagat tcctggattt 300  
tgtgagaatg agaaagggtg tgtcccttgt aacattttgg ttggctataa 350  
agctgtatat cgtttgtgct ttggtttggc tatgttctat cttcttctct 400  
ctttactaat gatcaaagtg aagagtagca gtgacctag agctgcagtg 450  
cacaatggat tttggttctt taaatttgct gcagcaattg caattattat 500  
tggggcattc ttcattccag aaggaaacttt tacaactgtg tggttttatg 550  
taggcattgc aggtgccttt tgtttcatcc tcatacaact agtcttactt 600  
attgattttg cacattcatg gaatgaatcg tgggttgaaa aaatggaaga 650  
agggaaactcg agatgttggg atgcagcctt gttatcagct acagctctga 700  
attatctgct gtcttttagt gctatcgctc tgttctttgt ctactacact 750  
catccagcca gttgttcaga aaacaaggcg ttcattcagtg tcaacatgct 800  
cctctgcgtt ggtgcttctg taatgtctat actgccaaaa atccaagaat 850  
cacaaccaag atctggtttg ttacagtctt cagtaattac agtctacaca 900  
atgtatttga catggctcagc tatgaccaat gaaccagaaa caaattgcaa 950  
cccaagtcta ctaagcataa ttggctacaa tacaacaagc actgtcccaa 1000  
aggaagggca gtcagtccag tgggtggcatg ctcaaggaat tataggacta 1050  
attctctttt tgttgtgtgt attttattcc agcatccgta cttcaaacia 1100  
tagtcagggt aataaactga ctctaacaag tgatgaatct acattaatag 1150  
aagatggtgg agctagaagt gatggatcac tggaggatgg ggacgatgtt 1200  
caccgagctg tagataatga aagggatggg gtcacttaca gttattcctt 1250  
ctttcacttc atgcttttcc tggcttcact ttatatcatg atgaccctta 1300  
ccaactggtc caggatgaa ccctctcgtg agatgaaaag tcagtggaca 1350

gctgtctggg tgaaaatctc ttccagttgg attggcatcg tgctgtatgt 1400  
 ttggacactc gtggcaccac ttgttcttac aaatcgtgat tttgactgag 1450  
 tgagacttct agcatgaaaag tcccactttg attattgctt atttgaaaac 1500  
 agtattccca actttttgtaa agttgtgtat gtttttgctt cccatgtaac 1550  
 ttctccagtg ttctggcatg aattagattt tactgcttgt cattttgtta 1600  
 ttttcttacc aagtgcattg atatgtgaag tagaatgaat tgacagaggaa 1650  
 agttttatga atatggtgat gagttagtaa aagtggccat tattgggctt 1700  
 attctctgct ctatagttgt gaaatgaaga gtaaaaacaa atttgtttga 1750  
 ctattttaaa attatattag accttaagct gtttttagcaa gcattaaagc 1800  
 aaatgtatgg ctgccttttg aaatatattg tgtgttgcct ggcaggatac 1850  
 tgcaaagaac atgggtttatt ttaaaattta taaacaagtc acttaaatgc 1900  
 cagttgtctg aaaaatctta taaggtttta cccttgatac ggaatttaca 1950  
 caggtagggg gtgttttagtg gacaatagtg taggttatgg atggaggtgt 2000  
 cggtactaaa ttgaataacg agtaaataat cttacttggg tagagatggc 2050  
 ctttgccaac aaagtgaact gttttggttg ttttaaactc atgaagtatg 2100  
 gggtcagtgg aaatgtttgg aactctgaag gatttagaca aggttttgaa 2150  
 aaggataatc atgggttaga aggaagtgtt ttgaaagtca ctttgaaagt 2200  
 tagttttggg ccagcacgg tagctcacc ttggtaatcc cagcactttg 2250  
 ggagcttaag tgggttagatt acttgagccc aggaattcag accagcttgg 2300  
 cacatggtga acctgttcta taaaaataat ctggctttga gcatatgcct 2350  
 gtggtccagc actgagaggc tagtgaagat tgctgagccc agagccaaag 2400  
 gttgcagtga gcaagtcacg tctactgact ctagctggca cagagtaagc 2450  
 caaaaaaata tatatatatt gaaatcaagg aggcaaaatt ttgacaggga 2500  
 aggaagtaac tgcaaaacca ctaggcttta gtaggtactt atataaaatc 2550  
 tagtccagtt ctctcattta aaaaaatgaa gacactgaaa tacagactta 2600  
 aatagctcag atagctaatt aggaaatttc aagttggcca ataatagcat 2650  
 tctctctgac atttaaaaaat aatttctatt caaaatacat gcatattgat 2700  
 ttacacctca tactgtgata attaattgtga tgtggattgc tgggtgccag 2750  
 catgacccat aaacaggtca gaagaatgat ggaatgtttt agaataaact 2800

cctgcttata gtatactaca cagttcaaaa gatgtttaaa atgcttttgt 2850  
 atttactgcc atgtaattga aatatataga ttattgtaac ctttcaacct 2900  
 gaaaatcaag cagtatgaga gtttagttat ttgtatgtgt cactagtgtc 2950  
 taatgaagct tttaaaatct acaattttctt ctttaaaaaat atttattaat 3000  
 gtgaatggaa tataacaatt cagcttaatt cccaacctt attctgtgtg 3050  
 tagacattgt attccacaat tttgaatggc tgtgttttac ctctaaataa 3100  
 atgaattcag agaaaaaaaa aaaaaaa 3127

<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73  
 Met Gly Ser Val Leu Gly Leu Cys Ser Met Ala Ser Trp Ile Pro  
 1 5 10 15  
 Cys Leu Cys Gly Ser Ala Pro Cys Leu Leu Cys Arg Cys Cys Pro  
 20 25 30  
 Ser Gly Asn Asn Ser Thr Val Thr Arg Leu Ile Tyr Ala Leu Phe  
 35 40 45  
 Leu Leu Val Gly Val Cys Val Ala Cys Val Met Leu Ile Pro Gly  
 50 55 60  
 Met Glu Glu Gln Leu Asn Lys Ile Pro Gly Phe Cys Glu Asn Glu  
 65 70 75  
 Lys Gly Val Val Pro Cys Asn Ile Leu Val Gly Tyr Lys Ala Val  
 80 85 90  
 Tyr Arg Leu Cys Phe Gly Leu Ala Met Phe Tyr Leu Leu Leu Ser  
 95 100 105  
 Leu Leu Met Ile Lys Val Lys Ser Ser Ser Asp Pro Arg Ala Ala  
 110 115 120  
 Val His Asn Gly Phe Trp Phe Phe Lys Phe Ala Ala Ala Ile Ala  
 125 130 135  
 Ile Ile Ile Gly Ala Phe Phe Ile Pro Glu Gly Thr Phe Thr Thr  
 140 145 150  
 Val Trp Phe Tyr Val Gly Met Ala Gly Ala Phe Cys Phe Ile Leu  
 155 160 165  
 Ile Gln Leu Val Leu Leu Ile Asp Phe Ala His Ser Trp Asn Glu  
 170 175 180  
 Ser Trp Val Glu Lys Met Glu Glu Gly Asn Ser Arg Cys Trp Tyr  
 185 190 195

Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu	200	205	210
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser	215	220	225
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys	230	235	240
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser	245	250	255
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr	260	265	270
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr	275	280	285
Asn	Cys	Asn	Pro	Ser	Leu	Leu	Ser	Ile	Ile	Gly	Tyr	Asn	Thr	Thr	290	295	300
Ser	Thr	Val	Pro	Lys	Glu	Gly	Gln	Ser	Val	Gln	Trp	Trp	His	Ala	305	310	315
Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr	320	325	330
Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr	335	340	345
Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg	350	355	360
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val	365	370	375
Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His	380	385	390
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr	395	400	405
Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp	410	415	420
Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val	425	430	435
Leu	Tyr	Val	Trp	Thr	Leu	Val	Ala	Pro	Leu	Val	Leu	Thr	Asn	Arg	440	445	450
Asp Phe Asp																	

<210> 74  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

<400> 74  
 gcgagaaaga agctgtctcc atcttgtctg tatcccgtg cttcttnga 50  
 cgttgtggag atggggagcg tccctggggc tgtgctccat ggcgagctgg 100  
 ataccatggt tgtgtggaag tgccccgtgt ttgctatgcc gatgctgtcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttggagt atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaag gtgttgtccc 300  
 ttgtaacatt ttggttggct ataaagctgt atatcgtttg tgctttgggt 350  
 tggctatggt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400  
 agcagtgatc ctagagctgc agtgcacaat ggattttggt tctttaaatt 450  
 tgctgcagca attgcaatta ttattggggc 480

<210> 75  
 <211> 438  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323  
 <223> unknown base

<400> 75  
 gttattgtga actttgtgga gatgggaggt cntggggctg tgttccatgg 50  
 cgagctggat accangtttg tgtggaagtg ccccggtgtt gntatgccga 100  
 tgctgtccta gtggaaacaa ntccactgta attagattga tntatgcact 150  
 tttnttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200  
 tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250  
 gttgtccctt gtaacatttt gggtggctat aaagctgtat atngtttgtg 300  
 ctttggtttg gctangttct atnttcttct ctctttacta atgatcaaag 350  
 tgaagagtag cagtgatcct agagctgcag tgcacaatgg attttggttt 400  
 tttaaatttg ctgcagcaat tgcaattatt attggggc 438

<210> 76  
 <211> 473  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 48

<223> unknown base

<400> 76

aagaagctgt ctccatcttg tctgtatccg ctgctcttgt gaacgttntg 50  
gagatgggga gcgtccttgg ggttgtgctc catggcgagc tggataccat 100  
gtttgtgtgg aagtgccccg tgtttgctat gccgatgctg tcctagtggg 150  
aacaactcca ctgtaactag attgatctat gcacttttct tgcttggttg 200  
agtatgtgta gcttgtgtaa tgttgatacc aggaatggaa gaacaactga 250  
ataagattcc tggattttgt gagaatgaga aagggtgtgt cccttgtaac 300  
attttggttg gctataaagc tgtatatcgt ttgtgctttg gtttggttat 350  
gttctatctt cttctctctt tactaatgat caaagtgaag agtagcagt 400  
atcctagagc tgcagtgcac aatggatttt gggtctttaa atttgctgca 450  
gcaattgcaa ttattattgg ggc 473

<210> 77

<211> 666

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 21, 111

<223> unknown base

<400> 77

gctgtcctta gtggaaacaa ntccaacttg taacttggat tgatctatgc 50  
actttttcct tgcttggttg agtatgtgta gctttgtgta atgttggtcc 100  
caggattgga ngaacaactg aataagattc ctggattttt gtgagaatga 150  
gaaagggtgt gtcccccttg aacatttttg gttggctata aagctgtata 200  
tcgtttgtgc tttgggttgg ctatgttcta tcttcttctc tctttactaa 250  
tgatcaaagt gaagagtagc agtgatccta gagctgcagt gcacaatgga 300  
ttttggttct ttaaatttgc tgcagcaatt gcaattatta ttggggcatt 350  
cttcattcca gaaggaactt ttacaactgt gtggttttat gtaggcattg 400  
caggtgctt ttgtttcatc ctcatacaac tagtcttact tattgatttt 450  
gcacattcat ggaatgaatc gtgggttgaa aaaatggaag aagggaactc 500

gagatgttgg tatgcagcct tggtatcagc tacagctctg aattatctgc 550  
 tgtctttagt tgctatcgtc ctgttctttg tctactacac tcatccagcc 600  
 agttgttcag aaaacaaggc gttcatcagt gtcaacatgc tcctctgcgt 650  
 tggtgcttct gtaatg 666

<210> 78  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 78  
 atgtttgtgt ggaagtgccc cg 22

<210> 79  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 79  
 gtcaacatgc tcctctgc 18

<210> 80  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 80  
 aatccattgt gcactgcagc tctagg 26

<210> 81  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 81  
 gagcatgccca ccactggact gac 23

<210> 82  
 <211> 54  
 <212> DNA  
 <213> Artificial Sequence

<220>



[illegible]

gccgatgctg tcctagtgga aacaactcca ctgtaactag attgatctat 50

<210> 83

<211> 3906

<212> DNA

<213> Homo sapiens

<400> 83

ctcggggcgcg cacaggcagc tcggtttgcc ctgcgattga gctgcgggctc 50

gcggccggcg ccggcctctc caatggcaaa tgtgtgtggc tggaggcgag 100

cqcgaaggctt tcggcaaagg cagtcgagtg ttgacagacc ggggcgagtc 150

ctgtgaaagc agataaaaga aaacatttat taacgtgtca ttacgagggg 200

aacqcccqgc cggggctgtc gcactccccg cggaacattt ggctccctcc 250

agctccqaga qagqagaaga agaaagcgga aaagaggcag attcacgtcg 300

tttccaqcca agtggacctg atcgatggcc ctctgaatt tatcacgata 350

tttgatttat tagcgatgcc ccctggtttg tgtgttacgc acacacacgt 400

gcacacaagg ctctggctcg cttccctccc tcgtttccag ctccctgggcg 450

aatccacat ctgtttcaac tctccgccga gggcgagcag gagcgagagt 500

qtgtcgaatc tgcgagtga gagggacgag ggaaaagaaa caaagccaca 550

gacgcaactt gagactcccg catcccaaaa gaagcaccag atcagcaaaa 600

aaagaagatg ggccccccga gcctcgtgct gtgcttgctg tccgcaactg 650

tgtttctccct gctgggtgga agctcggcct tcctgtcgca ccaccgctg 700

aaagqcaggt ttcagagga ccgcaggaac atccgcccc aatcatcct 750

qqtgctgacg gacgaccagg atgtggagct gggttccatg caggtgatga 800

acaagacccg gcgcatcatg gagcagggcg gggcgactt catcaacgcc 850

ttcgtgacca caccatgtg ctgcccctca cgctcctcca tcctcactgg 900

caagtacgtc cacaaccaca acacctacac caacaatgag aactgctcct 950

cqccctcctg gcaggcacag cacgagagcc gcacctttgc cgtgtacctc 1000

aatagcactg gctaccggac agctttcttc ggggaagtatc ttaatgaata 1050

caacggctcc tacgtgccac ccggctggaa ggagtgggtc ggactcctta 1100

aaaactcccq cttttataac tacacgctgt gtcggaacgg ggtgaaagag 1150

**Q**uestions & Answers

tcagctacca caccacagcac aaaggccgcc tcaagcacag aggctccagt 2650  
ctgcacccctt tcaggaaggg cctgcaagag aaggacaagg tgtgggtgtt 2700  
gcggggagcag aagcgcaaga agaaactccg caagctgctc aagcgccctgc 2750  
agaacaacga cacgtgcagc atgccaggcc tcacgtgctt caccacagcac 2800  
aaccagcact ggcagacggc gccttttctgg aactggggc ctttctgtgc 2850  
ctgcaccagc gccacaata acacgtactg gtgcatgagg accatcaatg 2900  
agactcacia tttcctcttc tgtgaatttg caactggctt cctagagtac 2950  
tttgatctca acacagaccc ctaccagctg atgaatgcag tgaacacact 3000  
ggacagggat gtcctcaacc agctacacgt acagctcatg gagctgagga 3050  
gctgcaaggg ttacaagcag tgtaaccccc ggactcgaaa catggacctg 3100  
gatggaggaa gctatgagca atacaggcag tttcagcgtc gaaagtggcc 3150  
agaaatgaag agaccttctt ccaaactact gggacaactg tgggaaggct 3200  
gggaagggtta agaaacaaca gaggtggacc tccaaaaaca tagaggcatc 3250  
acctgactgc acaggcaatg aaaaaccatg tgggtgattt ccagcagacc 3300  
tgtgctattg gccaggaggc ctgagaaagc aagcacgcac tctcagtcaa 3350  
catgacagat tctggaggat aaccagcagg agcagagata acttcaggaa 3400  
gtccattttt gccctgctt ttgctttgga ttatacctca ccagctgcac 3450  
aaaatgcatt ttttcgtatc aaaaagtcac cactaacctt cccccagaag 3500  
ctcaciaaagg aaaacggaga gagcgagcga gagagatttc cttggaaatt 3550  
tctcccaagg gcgaaagtca ttggaatttt taaatcatag gggaaaagca 3600  
gtcctgttct aaatcctctt attcttttgg tttgtcacia agaaggaact 3650  
aagaagcagg acagaggcaa cgtggagagg ctgaaaacag tgcagagacg 3700  
tttgacaatg agtcagtagc aaaaagaga tgacatttac ctagcactat 3750  
aaaccctggt tgcctctgaa gaaactgcct tcattgtata tatgtgacta 3800  
tttacatgta atcaacatgg gaacttttag gggaacctaa taagaaatcc 3850  
caattttcag gagtggtggt gtcaataaac gctctgtggc cagtgtaaaa 3900  
gaaaaa 3906

<210> 84  
<211> 867  
<212> PRT  
<213> Homo sapiens

<400> 84

Met	Gly	Pro	Pro	Ser	Leu	Val	Leu	Cys	Leu	Leu	Ser	Ala	Thr	Val	1	5	10	15
Phe	Ser	Leu	Leu	Gly	Gly	Ser	Ser	Ala	Phe	Leu	Ser	His	His	Arg	20	25	30	
Leu	Lys	Gly	Arg	Phe	Gln	Arg	Asp	Arg	Arg	Asn	Ile	Arg	Pro	Asn	35	40	45	
Ile	Ile	Leu	Val	Leu	Thr	Asp	Asp	Gln	Asp	Val	Glu	Leu	Gly	Ser	50	55	60	
Met	Gln	Val	Met	Asn	Lys	Thr	Arg	Arg	Ile	Met	Glu	Gln	Gly	Gly	65	70	75	
Ala	His	Phe	Ile	Asn	Ala	Phe	Val	Thr	Thr	Pro	Met	Cys	Cys	Pro	80	85	90	
Ser	Arg	Ser	Ser	Ile	Leu	Thr	Gly	Lys	Tyr	Val	His	Asn	His	Asn	95	100	105	
Thr	Tyr	Thr	Asn	Asn	Glu	Asn	Cys	Ser	Ser	Pro	Ser	Trp	Gln	Ala	110	115	120	
Gln	His	Glu	Ser	Arg	Thr	Phe	Ala	Val	Tyr	Leu	Asn	Ser	Thr	Gly	125	130	135	
Tyr	Arg	Thr	Ala	Phe	Phe	Gly	Lys	Tyr	Leu	Asn	Glu	Tyr	Asn	Gly	140	145	150	
Ser	Tyr	Val	Pro	Pro	Gly	Trp	Lys	Glu	Trp	Val	Gly	Leu	Leu	Lys	155	160	165	
Asn	Ser	Arg	Phe	Tyr	Asn	Tyr	Thr	Leu	Cys	Arg	Asn	Gly	Val	Lys	170	175	180	
Glu	Lys	His	Gly	Ser	Asp	Tyr	Ser	Lys	Asp	Tyr	Leu	Thr	Asp	Leu	185	190	195	
Ile	Thr	Asn	Asp	Ser	Val	Ser	Phe	Phe	Arg	Thr	Ser	Lys	Lys	Met	200	205	210	
Tyr	Pro	His	Arg	Pro	Val	Leu	Met	Val	Ile	Ser	His	Ala	Ala	Pro	215	220	225	
His	Gly	Pro	Glu	Asp	Ser	Ala	Pro	Gln	Tyr	Ser	Arg	Leu	Phe	Pro	230	235	240	
Asn	Ala	Ser	Gln	His	Ile	Thr	Pro	Ser	Tyr	Asn	Tyr	Ala	Pro	Asn	245	250	255	
Pro	Asp	Lys	His	Trp	Ile	Met	Arg	Tyr	Thr	Gly	Pro	Met	Lys	Pro	260	265	270	
Ile	His	Met	Glu	Phe	Thr	Asn	Met	Leu	Gln	Arg	Lys	Arg	Leu	Gln	275	280	285	

Thr	Leu	Met	Ser	Val	Asp	Asp	Ser	Met	Glu	Thr	Ile	Tyr	Asn	Met	
				290					295					300	
Leu	Val	Glu	Thr	Gly	Glu	Leu	Asp	Asn	Thr	Tyr	Ile	Val	Tyr	Thr	
				305					310					315	
Ala	Asp	His	Gly	Tyr	His	Ile	Gly	Gln	Phe	Gly	Leu	Val	Lys	Gly	
				320					325					330	
Lys	Ser	Met	Pro	Tyr	Glu	Phe	Asp	Ile	Arg	Val	Pro	Phe	Tyr	Val	
				335					340					345	
Arg	Gly	Pro	Asn	Val	Glu	Ala	Gly	Cys	Leu	Asn	Pro	His	Ile	Val	
				350					355					360	
Leu	Asn	Ile	Asp	Leu	Ala	Pro	Thr	Ile	Leu	Asp	Ile	Ala	Gly	Leu	
				365					370					375	
Asp	Ile	Pro	Ala	Asp	Met	Asp	Gly	Lys	Ser	Ile	Leu	Lys	Leu	Leu	
				380					385					390	
Asp	Thr	Glu	Arg	Pro	Val	Asn	Arg	Phe	His	Leu	Lys	Lys	Lys	Met	
				395					400					405	
Arg	Val	Trp	Arg	Asp	Ser	Phe	Leu	Val	Glu	Arg	Gly	Lys	Leu	Leu	
				410					415					420	
His	Lys	Arg	Asp	Asn	Asp	Lys	Val	Asp	Ala	Gln	Glu	Glu	Asn	Phe	
				425					430					435	
Leu	Pro	Lys	Tyr	Gln	Arg	Val	Lys	Asp	Leu	Cys	Gln	Arg	Ala	Glu	
				440					445					450	
Tyr	Gln	Thr	Ala	Cys	Glu	Gln	Leu	Gly	Gln	Lys	Trp	Gln	Cys	Val	
				455					460					465	
Glu	Asp	Ala	Thr	Gly	Lys	Leu	Lys	Leu	His	Lys	Cys	Lys	Gly	Pro	
				470					475					480	
Met	Arg	Leu	Gly	Gly	Ser	Arg	Ala	Leu	Ser	Asn	Leu	Val	Pro	Lys	
				485					490					495	
Tyr	Tyr	Gly	Gln	Gly	Ser	Glu	Ala	Cys	Thr	Cys	Asp	Ser	Gly	Asp	
				500					505					510	
Tyr	Lys	Leu	Ser	Leu	Ala	Gly	Arg	Arg	Lys	Lys	Leu	Phe	Lys	Lys	
				515					520					525	
Lys	Tyr	Lys	Ala	Ser	Tyr	Val	Arg	Ser	Arg	Ser	Ile	Arg	Ser	Val	
				530					535					540	
Ala	Ile	Glu	Val	Asp	Gly	Arg	Val	Tyr	His	Val	Gly	Leu	Gly	Asp	
				545					550					555	
Ala	Ala	Gln	Pro	Arg	Asn	Leu	Thr	Lys	Arg	His	Trp	Pro	Gly	Ala	
				560					565					570	
Pro	Glu	Asp	Gln	Asp	Asp	Lys	Asp	Gly	Gly	Asp	Phe	Ser	Gly	Thr	

575										580					585			
Gly	Gly	Leu	Pro	Asp 590	Tyr	Ser	Ala	Ala	Asn 595	Pro	Ile	Lys	Val	Thr 600				
His	Arg	Cys	Tyr	Ile 605	Leu	Glu	Asn	Asp	Thr 610	Val	Gln	Cys	Asp	Leu 615				
Asp	Leu	Tyr	Lys	Ser 620	Leu	Gln	Ala	Trp	Lys 625	Asp	His	Lys	Leu	His 630				
Ile	Asp	His	Glu	Ile 635	Glu	Thr	Leu	Gln	Asn 640	Lys	Ile	Lys	Asn	Leu 645				
Arg	Glu	Val	Arg	Gly 650	His	Leu	Lys	Lys	Lys 655	Arg	Pro	Glu	Glu	Cys 660				
Asp	Cys	His	Lys	Ile 665	Ser	Tyr	His	Thr	Gln 670	His	Lys	Gly	Arg	Leu 675				
Lys	His	Arg	Gly	Ser 680	Ser	Leu	His	Pro	Phe 685	Arg	Lys	Gly	Leu	Gln 690				
Glu	Lys	Asp	Lys	Val 695	Trp	Leu	Leu	Arg	Glu 700	Gln	Lys	Arg	Lys	Lys 705				
Lys	Leu	Arg	Lys	Leu 710	Leu	Lys	Arg	Leu	Gln 715	Asn	Asn	Asp	Thr	Cys 720				
Ser	Met	Pro	Gly	Leu 725	Thr	Cys	Phe	Thr	His 730	Asp	Asn	Gln	His	Trp 735				
Gln	Thr	Ala	Pro	Phe 740	Trp	Thr	Leu	Gly	Pro 745	Phe	Cys	Ala	Cys	Thr 750				
Ser	Ala	Asn	Asn	Asn 755	Thr	Tyr	Trp	Cys	Met 760	Arg	Thr	Ile	Asn	Glu 765				
Thr	His	Asn	Phe	Leu 770	Phe	Cys	Glu	Phe	Ala 775	Thr	Gly	Phe	Leu	Glu 780				
Tyr	Phe	Asp	Leu	Asn 785	Thr	Asp	Pro	Tyr	Gln 790	Leu	Met	Asn	Ala	Val 795				
Asn	Thr	Leu	Asp	Arg 800	Asp	Val	Leu	Asn	Gln 805	Leu	His	Val	Gln	Leu 810				
Met	Glu	Leu	Arg	Ser 815	Cys	Lys	Gly	Tyr	Lys 820	Gln	Cys	Asn	Pro	Arg 825				
Thr	Arg	Asn	Met	Asp 830	Leu	Asp	Gly	Gly	Ser 835	Tyr	Glu	Gln	Tyr	Arg 840				
Gln	Phe	Gln	Arg	Arg 845	Lys	Trp	Pro	Glu	Met 850	Lys	Arg	Pro	Ser	Ser 855				
Lys	Ser	Leu	Gly	Gln 860	Leu	Trp	Glu	Gly	Trp 865	Glu	Gly							

<210> 85  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 85  
 gaagccggct gtctgaatc 19  
  
 <210> 86  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 86  
 ggccagctat ctccgcag 18  
  
 <210> 87  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 87  
 aagggcctgc aagagaag 18  
  
 <210> 88  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 88  
 cactgggaca actgtggg 18  
  
 <210> 89  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 89  
 cagaggcaac gtggagag 18  
  
 <210> 90  
 <211> 21  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 90

aagtattgtc atacagtgtt c 21

<210> 91

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 91

tagtacttgg gcacgaggtt ggag 24

<210> 92

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 92

tcataccaac tgctggtcat tggc 24

<210> 93

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 93

ctcaagctgc tggacacgga gcggccggtg aatcggtttc acttg 45

<210> 94

<211> 971

<212> DNA

<213> Homo sapiens

<400> 94

aacaaagttc agtgactgag agggctgagc ggaggctgct gaaggggaga 50

aaggagttag gagctgctgg gcagagaggg actgtccggc tcccagatgc 100

tgggcctcct ggggagcaca gccctcgtgg gatggatcac aggtgctgct 150

gtggcggtcc tgctgctgct gctgctgctg gccacctgcc tttccacgg 200

acggcaggac tgtgacgtgg agaggaaccg tacagctgca gggggaaacc 250

gagtccgccg ggcccagcct tggcccttcc ggcggcgggg ccacctggga 300



atctttcacc atcacgtca tcttgccac gtatctcatg tgccgaatgt 350  
 gggcctccac caccaccacc acccccgcca caccctcac cacctccacc 400  
 accaccacca cccccaccgc caccatcccc gccacgctcg ctgaggctgc 450  
 tgtgcgcggt gctgtggac agcagctgcc cctgccctcc catctgttcc 500  
 caggacaagt ggaccccatg tttccatgtg gaaggatgca tctctggggt 550  
 gaacgagggg aacaatagac tggggcttgc tccagctgca tttgcatggc 600  
 atgccccagt gtactatggc agcagagaat ggaggaacac tgggtctgca 650  
 gtgctgaagg gtttggggag tggagagcaa gggtgctctt tcggggctgg 700  
 acagcccgtc ttgtgacagt gactcccagt gagccccaga aatgacaagc 750  
 gtgtcttggc agagccagca cacaagtgga tgtgaagtgc ccgtcttgac 800  
 ctctcatca ggctgctgca ggcctctggc gggcagggca ctgggagagg 850  
 ccctgagaat gtccttttgg tttggagaag gcagtgtgag gctgcacagt 900  
 caattcatcg gtgccttagt ccaagaaaat aaaaaccact aagaagcttt 950  
 aaaaaaaaaa aaaaaaaaaa a 971

<210> 95  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Met Leu Gly Leu Leu Gly Ser Thr Ala Leu Val Gly Trp Ile Thr  
     1                    5                    10                    15  
 Gly Ala Ala Val Ala Val Leu Leu Leu Leu Leu Leu Ala Thr  
                     20                    25                    30  
 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
                     35                    40                    45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
                     50                    55                    60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
                     65                    70                    75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
                     80                    85                    90  
 His His Pro Arg His Thr Pro His His Leu His His His His His  
                     95                    100                    105  
 Pro His Arg His His Pro Arg His Ala Arg  
                     110                    115

<210> 96  
 <211> 1312  
 <212> DNA  
 <213> Homo sapiens

<400> 96  
 ggcggtgct gagctgcctt gaggtgcagt gttggggatc cagagccatg 50  
 tcggacctgc tactactggg cctgattggg ggcctgactc tcttactgct 100  
 gctgacgctg ctggcctttg ccgggtactc agggctactg gctgggggtg 150  
 aagtgagtgc tgggtcacc cccatccgca acgtcactgt ggcctacaag 200  
 ttccacatgg ggctctatgg tgagactggg cggcttttca ctgagagctg 250  
 cagcatctct cccaagctcc gctccatcgc tgtctactat gacaaccccc 300  
 acatgggtgcc ccctgataag tgccgatgtg ccgtgggcag catcctgagt 350  
 gaaggtgagg aatcgccctc ccctgagctc atcgacctct accagaaatt 400  
 tggcttcaag gtgttctcct tcccggcacc cagccatgtg gtgacagcca 450  
 ccttccccta caccaccatt ctgtccatct ggctggctac ccgccgtgtc 500  
 catcctgcct tggacaccta catcaaggag cggaagctgt gtgcctatcc 550  
 tcggctggag atctaccagg aagaccagat ccatttcatg tgcccactgg 600  
 cacggcaggg agacttctat gtgcctgaga tgaaggagac agagtggaaa 650  
 tggcgggggc ttgtggaggc cattgacacc caggtggatg gcacaggagc 700  
 tgacacaatg agtgacacga gttctgtaag cttggaagtg agccctggca 750  
 gccgggagac ttcagctgcc aactgtcac ctggggcgag cagccgtggc 800  
 tgggatgacg gtgacacccg cagcgagcac agctacagcg agtcaggtgc 850  
 cagcggctcc tcttttgagg agctggactt ggagggcgag gggcccttag 900  
 gggagtcacg gctggaccct gggactgagc ccctggggac taccaagtgg 950  
 ctctgggagc ccactgcccc tgagaagggc aaggagtaac ccatggcctg 1000  
 caccctcctg cagtgcagtt gctgaggaac tgagcagact ctccagcaga 1050  
 ctctccagcc ctcttctcc ttcctctggg ggaggagggg ttcctgaggg 1100  
 acctgacttc ccctgctcca ggcctcttgc taagccttct cctcactgcc 1150  
 ctttaggctc ccagggccag aggagccagg gactattttc tgcaccagcc 1200  
 cccagggctg ccgccctgt tgtgtctttt tttcagactc acagtggagc 1250  
 ttccaggacc cagaataaag ccaatgattt acttgtttca cctggaaaaa 1300

**SECRET**

<211> 313

&lt;212&gt; PRT

<213> Homo sapiens

<400> 97

Met Ser Asp Leu Leu Leu Leu Gly Leu Ile Gly Gly Leu Thr Leu  
1 5 10 15

Leu Leu Leu Leu Thr Leu Leu Ala Phe Ala Gly Tyr Ser Gly Leu  
20 25 30

Leu Ala Gly Val Glu Val Ser Ala Gly Ser Pro Pro Ile Arg Asn  
35 40 45

Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
50 55 60

Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
65 70 75

Ser Ile Ala Val Tyr Tyr Asp Asn Pro His Met Val Pro Pro Asp  
80 85 90

Lys Cys Arg Cys Ala Val Gly Ser Ile Leu Ser Glu Gly Glu Glu  
95 100 105

Ser Pro Ser Pro Glu Leu Ile Asp Leu Tyr Gln Lys Phe Gly Phe  
110 115 120

Lys Val Phe Ser Phe Pro Ala Pro Ser His Val Val Thr Ala Thr  
125 130 135

Phe Pro Tyr Thr Thr Ile Leu Ser Ile Trp Leu Ala Thr Arg Arg  
140 145 150

Val His Pro Ala Leu Asp Thr Tyr Ile Lys Glu Arg Lys Leu Cys  
155 160 165

Ala Tyr Pro Arg Leu Glu Ile Tyr Gln Glu Asp Gln Ile His Phe  
170 175 180

Met Cys Pro Leu Ala Arg Gln Gly Asp Phe Tyr Val Pro Glu Met  
185 195

Lys Glu Thr Glu Trp Lys Trp Arg Gly Leu Val Glu Ala Ile Asp  
200 205 210

Thr Gln Val Asp Gly Thr Gly Ala Asp Thr Met Ser Asp Thr Ser  
215 220 225

Ser Val Ser Leu Glu Val Ser Pro Gly Ser Arg Glu Thr Ser Ala  
230 235 240

Ala Thr Leu Ser Pro Gly Ala Ser Ser Arg Gly Trp Asp Asp Gly  
245 250 255

Asp Thr Arg Ser Glu His Ser Tyr Ser Glu Ser Gly Ala Ser Gly  
260 265 270

Ser Ser Phe Glu Glu Leu Asp Leu Glu Gly Glu Gly Pro Leu Gly  
275 280 285

Glu Ser Arg Leu Asp Pro Gly Thr Glu Pro Leu Gly Thr Thr Lys  
290 295 300

Trp Leu Trp Glu Pro Thr Ala Pro Glu Lys Gly Lys Glu  
305 310

<210> 98  
<211> 725  
<212> DNA  
<213> Homo sapiens

<400> 98  
ccgcgggaac gctgtcctgg ctgccgccac ccgaacagcc tgtcctggtg 50  
ccccggctcc ctgccccgcg ccagtcattg accctgcgcc cctcactcct 100  
cccgtccat ctgctgctgc tgctgctgct cagtgcggcg gtgtgccggg 150  
ctgaggctgg gctcgaaacc gaaagtcccg tccggaccct ccaagtggag 200  
accctggtgg agccccaga accatgtgcc gagcccgctg cttttggaga 250  
cacgcttcac atacactaca cgggaagctt ggtagatgga cgtattattg 300  
acacctccct gaccagagac cctctggtta tagaacttgg ccaaaagcag 350  
gtgattccag gtctggagca gagtcttctc gacatgtgtg tgggagagaa 400  
gcgaagggca atcattcctt ctacttggc ctatggaaaa cggggatttc 450  
caccatctgt ccagcggat gcagtgggtg agtatgacgt ggagctgatt 500  
gcactaatcc gagccaacta ctggctaaag ctggtgaagg gcattttgcc 550  
tctggtaggg atggccatgg tgccagccct cctgggcctc attgggtatc 600  
acctatacag aaaggccaat agacccaaag tctccaaaaa gaagctcaag 650  
gaagagaaac gaaacaagag caaaaagaaa taataaataa taaattttaa 700  
aaaacttaaa aaaaaaaaaa aaaaa 725

<210> 99  
<211> 201  
<212> PRT  
<213> Homo sapiens

<400> 99  
Met Thr Leu Arg Pro Ser Leu Leu Pro Leu His Leu Leu Leu Leu  
1 5 10 15  
Leu Leu Leu Ser Ala Ala Val Cys Arg Ala Glu Ala Gly Leu Glu

20										25					30				
Thr	Glu	Ser	Pro	Val	Arg	Thr	Leu	Gln	Val	Glu	Thr	Leu	Val	Glu					
				35					40					45					
Pro	Pro	Glu	Pro	Cys	Ala	Glu	Pro	Ala	Ala	Phe	Gly	Asp	Thr	Leu					
				50					55					60					
His	Ile	His	Tyr	Thr	Gly	Ser	Leu	Val	Asp	Gly	Arg	Ile	Ile	Asp					
				65					70					75					
Thr	Ser	Leu	Thr	Arg	Asp	Pro	Leu	Val	Ile	Glu	Leu	Gly	Gln	Lys					
				80					85					90					
Gln	Val	Ile	Pro	Gly	Leu	Glu	Gln	Ser	Leu	Leu	Asp	Met	Cys	Val					
				95					100					105					
Gly	Glu	Lys	Arg	Arg	Ala	Ile	Ile	Pro	Ser	His	Leu	Ala	Tyr	Gly					
				110					115					120					
Lys	Arg	Gly	Phe	Pro	Pro	Ser	Val	Pro	Ala	Asp	Ala	Val	Val	Gln					
				125					130					135					
Tyr	Asp	Val	Glu	Leu	Ile	Ala	Leu	Ile	Arg	Ala	Asn	Tyr	Trp	Leu					
				140					145					150					
Lys	Leu	Val	Lys	Gly	Ile	Leu	Pro	Leu	Val	Gly	Met	Ala	Met	Val					
				155					160					165					
Pro	Ala	Leu	Leu	Gly	Leu	Ile	Gly	Tyr	His	Leu	Tyr	Arg	Lys	Ala					
				170					175					180					
Asn	Arg	Pro	Lys	Val	Ser	Lys	Lys	Lys	Leu	Lys	Glu	Glu	Lys	Arg					
				185					190					195					
Asn	Lys	Ser	Lys	Lys	Lys														
				200															

<210> 100

<211> 705

<212> DNA

<213> Homo sapiens

<400> 100

cccgggaacg tggtcctggc tgccgcaccc gaacagcctg tcttggtgcc 50

ccggctccct gccccgcgcc cagtcatgac cctgcgcccc tcaactcctcc 100

cgctccatct gctgctgctg ctgctgctca gtgcggcggt gtgccgggct 150

gaggctgggc tcgaaaccga aagtcccgtc cggaccctcc aagtggagac 200

cctggtggag cccccagaac catgtgccga gcccgctgct tttggagaca 250

cgcttcacat aactacacg ggaagcttgg tagatggacg tattattgac 300

acctccctga ccagagaccc tctggttata gaacttggcc aaaagcaggt 350

gattccaggt ctggagcaga gtcttctcga catgtgtgtg ggagagaagc 400  
gaagggcaat cattccttct cacttggcct atggaaaacg gggatttcca 450  
ccatctgtcc cagcggatgc agtgggtgcag tatgacgtgg agctgattgc 500  
actaatccga gccaaactact ggctaaagct ggtgaagggc attttgcctc 550  
tggtagggat ggccatgggtg ccaccctcct gggcctcatt gggatatcacc 600  
tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
gagaaacgaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 101  
ccgaaagtcc cgtccggacc ctccaagtgg agaccctggt ggagccccc 50  
gaaccatgtg ccgagcccg cgtcttttga gacacgcttc acatacacta 100  
cacgggaagc ttggtagatg gacgtattat tgacacctcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
cagagtcttc tcgacatgtg tgtgggagag aagcgaaggg caatcattcc 250  
ttctcacttg gcctatggaa aacgggggatt tccaccatct gtcccagcgg 300  
atgcagtggg gacgtatgac gtggagctga ttgactaat ccgagccaac 350  
tactggctaa agctgggtgaa gggcattttg cctctggtag ggatggccat 400  
ggtgccagcc ctcttgggcc tcattgggta tcacctatac agaaaggcca 450  
atagacccaa agtctccaaa aagaagctca aggaagagaa acgaaacaag 500  
agcaaaaaga aataataaat aataaatttt aaaaaactta aaa 543

<210> 102  
<211> 1316  
<212> DNA  
<213> Homo sapiens

<400> 102  
ctgctgcatc cgggtgtctg gaggctgtgg ccgttttgtt ttcttggcta 50  
aaatcggggg agtgaggcgg gccggcgagg cgcgacaccg ggctccggaa 100  
ccactgcacg acggggctgg actgacctga aaaaaatgtc tggatttcta 150  
gagggcttga gatgctcaga atgcattgac tggggggaaa agcgcaatac 200

tattgcttcc attgctgctg gtgtactatt ttttacaggc tggaggatta 250  
 tcatagatgc agctgttatt tatcccacca tgaaagattt caaccactca 300  
 taccatgcct gtggtgttat agcaaccata gccttcctaa tgattaatgc 350  
 agtatcgaat ggacaagtcc gaggtgatag ttacagtga ggttgtctgg 400  
 gtcaaacagg tgctcgcatt tggcttttcg ttggtttcat gttggccttt 450  
 ggatctctga ttgcatctat gtggattctt tttggagggt atgttgctaa 500  
 agaaaaagac atagtatacc ctggaattgc tgtatttttc cagaatgcct 550  
 tcatcttttt tggagggctg gtttttaagt ttggccgcac tgaagactta 600  
 tggcagtga cacaatctgat ttcccacagc acaacagccc tgcattgggt 650  
 tgtttgtttt tttactgctc actcccaacc ttttgtaatg ccattttcta 700  
 aacttatttc tgagtgtagt ctgagcttaa agttgtgtaa tactaaaatc 750  
 acgagaacac ctaaacaaca accaaaaatc tattgtggta tgcacttgat 800  
 taacttataa aatgttagag gaaactttca catgaataat ttttgtcaaa 850  
 ttttatcatg gtataatttg taaaaataaa aagaaattac aaaagaaatt 900  
 atggatttgt caatgtaagt atttgtcata tctgagggtcc aaaaccacaa 950  
 tgaaagtgt ctgaagattt aatgtgttta ttcaaagtgt gtctcttctg 1000  
 tgtcaaagt taaatgaaat ataaacattt tttagttttt aaaatattcc 1050  
 gtggcaaaa ttcttcctca ctataattgg tatttacttt taccaaaaat 1100  
 tctgtgaaca tgtaatgtaa ctggcttttg aggggtctccc aaggggtgag 1150  
 tggacgtgtt ggaagagaga agcaccatgg tccagccacc aggctccctg 1200  
 tgtcccttcc atgggaagggt cttccgctgt gcctctcatt ccaagggcag 1250  
 gaagatgtga ctgagccatg acacgtgggt ctggtgggat gcacagtcac 1300  
 tccacatcca ccactg 1316

<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

Met	Ser	Gly	Phe	Leu	Glu	Gly	Leu	Arg	Cys	Ser	Glu	Cys	Ile	Asp
1				5					10					15

Trp	Gly	Glu	Lys	Arg	Asn	Thr	Ile	Ala	Ser	Ile	Ala	Ala	Gly	Val
				20					25					30

Leu	Phe	Phe	Thr	Gly 35	Trp	Trp	Ile	Ile	Ile 40	Asp	Ala	Ala	Val	Ile 45
Tyr	Pro	Thr	Met	Lys 50	Asp	Phe	Asn	His	Ser 55	Tyr	His	Ala	Cys	Gly 60
Val	Ile	Ala	Thr	Ile 65	Ala	Phe	Leu	Met	Ile 70	Asn	Ala	Val	Ser	Asn 75
Gly	Gln	Val	Arg	Gly 80	Asp	Ser	Tyr	Ser	Glu 85	Gly	Cys	Leu	Gly	Gln 90
Thr	Gly	Ala	Arg	Ile 95	Trp	Leu	Phe	Val	Gly 100	Phe	Met	Leu	Ala	Phe 105
Gly	Ser	Leu	Ile	Ala 110	Ser	Met	Trp	Ile	Leu 115	Phe	Gly	Gly	Tyr	Val 120
Ala	Lys	Glu	Lys	Asp 125	Ile	Val	Tyr	Pro	Gly 130	Ile	Ala	Val	Phe	Phe 135
Gln	Asn	Ala	Phe	Ile 140	Phe	Phe	Gly	Gly	Leu 145	Val	Phe	Lys	Phe	Gly 150
Arg	Thr	Glu	Asp	Leu 155	Trp	Gln								

```
<210> 104
<211> 545
<212> DNA
<213> Homo sapiens
```

```
<400> 104
ttcttggtta aaatcgggg agtgaggcgg gccggcgagg cgcgacaccg 50
ggctccggaa ccaactgcacg acgggggctgg actgacctga aaaaaatgtc 100
tggatttcta gagggcttga gatgctcaga atgcattgac tggggggaaa 150
agcgcaatac tattgcttcc attgctgctg gtgtactatt ttttacaggc 200
tgggtggatta tcatagatgc agctgttatt tatcccacca tgaaagattt 250
caaccactca taccatgcct gtggtgttat agcaaccata gccttcctaa 300
tgattaatgc agtatcgaat ggacaagtcc gaggtgatag ttacagtga 350
ggttgtctgg gtcaaacagg tgctcgcat tggcttttcg ttggtttcat 400
gttggccttt ggatctctga ttgcatctat gtggattcct tttggagggt 450
atgttgctaa agaaaaagac atagtatacc ctggaattgc tgtatttttc 500
cagaatgcct tcatcttttt tggaggggctg gtttttaagt ttggc 545
```

<210>	105
<211>	490
<212>	DNA



**THE UNIVERSITY OF CHICAGO**

<221> unsure

<223> unknown base

```

400> 103
tggacgacc tgaaaaaat gtttggattt ntagagggnt tgagatgttc 50

agaatgcatg actgggggaa aagcgcaaact actattgctt ccattgctgc 100

tgggtgtaata ttttttacag gctggtggat tatcatagat gcagntgtta 150

tttatcccac catgaaagat ttcaaccant cataccatgc ctgtggtgtt 200

atagcaacca tagccttcnt aatgattaat gcagtatcga atggacaagt 250

ccgagggtgat agttacagtg aagggttgttt ggggtcaaaca ggtgctcgca 300

tttggctttt cgttggtttc atgttggcct ttggatctct gattgcatct 350

atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 400

ccctggaatt gntgtatttt tccagaatgc cttcatcttt tttggagggc 450

tggttttttaa gtttggccgc actgaagant tatggcagtg 490

```

<211> 466

<213> Homo sapiens

<221> unsure

<223> unknown base

```

<400> 100
ggacaccggg ttccggacca atgcangacg gggaggantg acctgaaaaa 50
aatgtttgga tttttagagg gcttgagatg ntcagaatgc attgactggg 100
ggaaaagcgc aatantattg ctttccattg ctgctgggtg actatTTTTT 150
acaggggtggg ggattatcat agatgcagct gttatttatc ccaccatgaa 200
agatttnaac cactcatacc atgcctgtgg tgttatagca accatagcct 250
tcctaatagat taatgcagta tcgaatggac aagtcagagg tgatagttac 300
agtgaagggtt gtttgggtca aacaggtgnt cgcatttggc ttttcggttg 350
tttcatgttg gcctttggat ttctgattgn attctatgcg gattcttctt 400
ggaggttatg ttgctaaaga aaaagacata gtataccctg gaattnctnt 450
atttttccag aatgcc 466

```

<210> 107  
 <211> 377  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> unsure  
 <222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356  
 <223> unknown base

<400> 107  
 tagagggctt gagatgctca gaatgcattg actgggggga aaagcgcaat 50  
 antattgctt ccattgntgn tgggtgnta tttttttaca ggctgggtgga 100  
 ttatnataga tgcagctgtt atttatccca ccatgaaaga tttnaaccan 150  
 tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200  
 tgcagtatng aatggacaag tccgaggtga tagttacagt gaagggtgtt 250  
 tgggtcaaac aggtgntngc atttggcttt tngttggttt catgttggtc 300  
 tttggatctn tgattgcatt tatgtggatt ntttttggag gttatgttgc 350  
 taaagnaaaa gacatagtat accctgt 377

<210> 108  
 <211> 552  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 12, 25, 65, 130, 437, 537  
 <223> unknown base

<400> 108  
 gggaggctgt gnccgttttg ttttnttggc taaaatcggg ggagtgaggg 50  
 ggcccggcgc ggcgngacac cgggttcgg gaaccattgc acgacggggg 100  
 ggactgacct gaaaaaatg tttggatttn tagagggctt gagatgctca 150  
 gaatgcattg actgggggga aaagcgcaat actattgctt ccattgctgc 200  
 tgggtgtacta ttttttacag gctggtggat tatcatagat gcagctgtta 250  
 tttatccac catgaaagat ttcaaccact cataccatgc ctgtgggtgtt 300  
 atagcaacca tagccttct aatgattaat gcagtatoga atggacaagt 350  
 ccgaggtgat agttacagt aaggttgtct ggggtcaaaca ggtgctcgca 400  
 tttggctttt cgttggtttc atgttggcct ttggatntct gattgcatct 450  
 atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 500

ccctggaatt gctgtatddd tccagaatgc cttcatnttt tttggagggc 550

tg 552

<210> 109

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 109

gggtggatgg tactgctgca tcc 23

<210> 110

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 110

tgttgtgctg tgggaaatca gatgtg 26

<210> 111

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 111

gtgtctggag gctgtggccg ttttgttttc ttgggctaaa atcggg 46

<210> 112

<211> 3004

<212> DNA

<213> Homo sapiens

<400> 112

cgacgccggc gtgatgtggc ttccgctggg gctgctcctg gctgtgctgc 50

tgctggccgt cctctgcaaa gtttacttgg gactattctc tggcagctcc 100

ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccctggtaac 150

tgacaaggag gccaggaaga aggttctcaa acaagctttt tcagccaacc 200

aagtgccgga gaagctggat gtgggtggtaa ttggcagtgg ctttgggggc 250

ctggctgcag ctgcaattct agctaaagct ggcaagcgag tcctgggtgct 300

ggaacaacat accaaggcag ggggctgctg tcataccttt ggaaagaatg 350

gccttgaatt tgacacagga atccattaca ttgggcgtat ggaagagggc 400

agcattggcc gttttatctt ggaccagatc actgaagggc agctggactg 450  
 ggctccccctg tcctctcctt ttgacatcat ggtactggaa gggcccaatg 500  
 gccgaaagga gtaccccatg tacagtggag agaaagccta cattcagggc 550  
 ctcaaggaga agtttccaca ggaggaagct atcattgaca agtatataaa 600  
 gctgggtaag gtggtatcca gtggagcccc tcatgccatc ctgttgaaat 650  
 tcctcccatt gcccggtgtt cagctcctcg acaggtgtgg gctgctgact 700  
 cgtttctctc cattccttca agcatccacc cagagcctgg ctgaggtcct 750  
 gcagcagctg ggggcctcct ctgagctcca ggcagtactc agctacatct 800  
 tccccactta cgggtgcacc cccaaccaca gtgccttttc catgcacgcc 850  
 ctgctggtca accactacat gaaaggaggc ttttatcccc gaggggggttc 900  
 cagtgaaatt gccttccaca ccatccctgt gattcagcgg gctggggggcg 950  
 ctgtcctcac aaaggccact gtgcagagtg tgttgctgga ctgagctggg 1000  
 aaagcctgtg gtgtcagtg gaagaagggg catgagctgg tgaacatcta 1050  
 ttgccccatc gtggtctcca acgcaggact gttcaacacc tatgaacacc 1100  
 tactgccggg gaacgcccgc tgccctgccag gtgtgaagca gcaactgggg 1150  
 acggtgcggc ccggcttagg catgacctct gttttcatct gcctgcgagg 1200  
 caccaaggaa gacctgcac tgccgtccac caactactat gtttactatg 1250  
 acacggacat ggaccaggcg atggagcgt acgtctccat gccagggaa 1300  
 gaggtgcgg aacacatccc tcttctcttc ttcgctttcc catcagccaa 1350  
 agatccgacc tgggaggacc gattcccagg ccggtccacc atgatcatgc 1400  
 tcataccac tgccctacgag tggtttgagg agtggcaggc ggagctgaag 1450  
 ggaaagcggg gcagtgacta tgagaccttc aaaaactcct ttgtggaagc 1500  
 ctctatgtca gtggtcctga aactgttccc acagctggag gggaaggtgg 1550  
 agagtgtgac tgcaggatcc ccactacca accagttcta tctggctgct 1600  
 ccccgaggtg cctgctacgg ggctgaccat gacctgggcc gcctgcaccc 1650  
 ttgtgtgatg gcctccttga gggcccagag ccccatcccc aacctctatc 1700  
 tgacaggcca ggatatcttc acctgtggac tggtcggggc cctgcaaggt 1750  
 gccctgctgt gcagcagcgc catcctgaag cggaacttgt actcagacct 1800  
 taagaatctt gattctagga tccgggcaca gaagaaaaag aattagttcc 1850

atcagggagg agtcagagga atttgcccaa tggctggggc atctcccttg 1900  
acttacccat aatgtctttc tgcattagtt ccttgcacgt ataaagcact 1950  
ctaatttggt tctgatgcct gaagagaggc ctagtttaaa tcacaattcc 2000  
gaatctgggg caatggaatc actgcttcca gctggggcag gtgagatctt 2050  
tacgcctttt ataacatgcc atccctacta ataggatatt gacttggata 2100  
gcttgatgtc tcatgacgag cggcgctctg catccctcac ccatgcctcc 2150  
taactcagtg atcaaagcga atattccatc tgtggataga acccctggca 2200  
gtgttgctcag ctcaacctgg tgggttcagt tctgtcctga ggcttctgct 2250  
ctcattcatt tagtgctacg ctgcacagtt ctacactgtc aagggaaaag 2300  
ggagactaat gaggcttaac tcaaaacctg ggcgtgggtt tggttgcat 2350  
tccataggtt tggagagctc tagatctctt ttgtgctggg ttcagtggct 2400  
cttcagggga caggaaatgc ctgtgtctgg ccagtgtggt tctggagctt 2450  
tggggtaaca gcaggatcca tcagttagta ggggtgcatgt cagatgatca 2500  
tatccaattc atatggaagt cccgggtctg tcttccttat catcgggggtg 2550  
gcagctgggt ctcaatgtgc cagcagggaac tcagtacctg agcctcaatc 2600  
aagccttatc caccaaatac acaggggaagg gtgatgcagg gaagggtgac 2650  
atcaggagtc agggcatgga ctggtaagat gaatactttg ctgggctgaa 2700  
gcaggctgca gggcattcca gccaaaggca cagcagggga cagtgcaggg 2750  
aggtgtgggg taaggagggg aagtcacatc agaaaaggga aagccacgga 2800  
atgtgtgtga agcccagaaa tggcatttgc agttaattag cacatgtgag 2850  
ggttagacag gtaggtgaat gcaagctcaa ggtttggaaa aatgactttt 2900  
cagttatgtc tttggtatca gacatacgaa aggtctcttt gtagttcgtg 2950  
ttaatgtaac attaataaat ttattgattc cattgcttta aaaaaaaaaa 3000  
aaaa 3004

<210> 113  
<211> 610  
<212> PRT  
<213> Homo sapiens

<400> 113  
Met Trp Leu Pro Leu Val Leu Leu Leu Ala Val Leu Leu Leu Ala  
1 5 10 15  
Val Leu Cys Lys Val Tyr Leu Gly Leu Phe Ser Gly Ser Ser Pro

	20		25		30
Asn Pro Phe Ser	Glu Asp Val Lys Arg	Pro Pro Ala Pro Leu Val	35	40	45
Thr Asp Lys Glu	Ala Arg Lys Lys Val	Leu Lys Gln Ala Phe Ser	50	55	60
Ala Asn Gln Val	Pro Glu Lys Leu Asp	Val Val Val Ile Gly Ser	65	70	75
Gly Phe Gly Gly	Leu Ala Ala Ala Ala	Ile Leu Ala Lys Ala Gly	80	85	90
Lys Arg Val Leu	Val Leu Glu Gln His	Thr Lys Ala Gly Gly Cys	95	100	105
Cys His Thr Phe	Gly Lys Asn Gly Leu	Glu Phe Asp Thr Gly Ile	110	115	120
His Tyr Ile Gly	Arg Met Glu Glu Gly	Ser Ile Gly Arg Phe Ile	125	130	135
Leu Asp Gln Ile	Thr Glu Gly Gln Leu	Asp Trp Ala Pro Leu Ser	140	145	150
Ser Pro Phe Asp	Ile Met Val Leu Glu	Gly Pro Asn Gly Arg Lys	155	160	165
Glu Tyr Pro Met	Tyr Ser Gly Glu Lys	Ala Tyr Ile Gln Gly Leu	170	175	180
Lys Glu Lys Phe	Pro Gln Glu Glu Ala	Ile Ile Asp Lys Tyr Ile	185	190	195
Lys Leu Val Lys	Val Val Ser Ser Gly	Ala Pro His Ala Ile Leu	200	205	210
Leu Lys Phe Leu	Pro Leu Pro Val Val	Gln Leu Leu Asp Arg Cys	215	220	225
Gly Leu Leu Thr	Arg Phe Ser Pro Phe	Leu Gln Ala Ser Thr Gln	230	235	240
Ser Leu Ala Glu	Val Leu Gln Gln Leu	Gly Ala Ser Ser Glu Leu	245	250	255
Gln Ala Val Leu	Ser Tyr Ile Phe Pro	Thr Tyr Gly Val Thr Pro	260	265	270
Asn His Ser Ala	Phe Ser Met His Ala	Leu Leu Val Asn His Tyr	275	280	285
Met Lys Gly Gly	Phe Tyr Pro Arg Gly	Gly Ser Ser Glu Ile Ala	290	295	300
Phe His Thr Ile	Pro Val Ile Gln Arg	Ala Gly Gly Ala Val Leu	305	310	315

[illegible]

<210> 114  
 <211> 1701  
 <212> DNA  
 <213> Homo sapiens

<400> 114  
 gcagcggcga ggcggcggtg gtggctgagt ccgtgggtggc agaggcgaag 50  
 gcgacagctc taggggttgg caccggcccc gagaggagga tgcgggtccg 100  
 gatagggctg acgctgctgc tgtgtgcggt gctgctgagc ttggcctcgg 150  
 cgtcctcggg tgaagaaggc agccaggatg aatccttaga ttccaagact 200  
 actttgacat cagatgagtc agtaaaggac catactactg caggcagagt 250  
 agttgctggt caaatatttc ttgattcaga agaatctgaa ttagaatcct 300  
 ctattcaaga agaggaagac agcctcaaga gccaagaggg ggaaagtgtc 350  
 acagaagata tcagctttct agagtctcca aatccagaaa acaaggacta 400  
 tgaagagcca aagaaagtac ggaaaccagc ttgaccgcc attgaaggca 450  
 cagcacatgg ggagccctgc cacttcctt ttcttttct agataaggag 500  
 tatgatgaat gtacatcaga tgggagggaa gatggcagac tgtggtgtgc 550  
 tacaacctat gactacaaag cagatgaaaa gtggggcttt tgtgaaactg 600  
 aagaagaggc tgctaagaga cggcagatgc aggaagcaga aatgatgtat 650  
 caaactggaa tgaaaatcct taatggaagc aataagaaaa gccaaaaaag 700  
 agaagcatat cggtatctcc aaaaggcagc aagcatgaac cataccaaag 750  
 ccctggagag agtgtcatat gctcttttat ttggtgatta cttgccacag 800  
 aatatccagg cagcgagaga gatgtttgag aagctgactg aggaaggctc 850  
 tccaaggga cagactgtc ttggctttct gtatgcctct ggacttggtg 900  
 ttaattcaag tcaggcaaag gctcttgat attatacatt tggagctctt 950  
 gggggcaatc taatagccca catggttttg gtaagtagac tttagtggaa 1000  
 ggctaataat attaacatca gaagaatttg tggtttatag cggccacaac 1050  
 tttttcagct ttcgatgatc agatttgctt gtattaagac caaatattca 1100  
 gttgaacttc cttcaaattc ttgttaatgg atataacaca tggaatctac 1150  
 atgtaaatga aagttggtgg agtccacaat ttttctttaa aatgattagt 1200  
 ttggctgatt gccctaata agagagatct gataaatggc tctttttaaa 1250



ttttctctga gttggaattg tcagaatcat tttttacatt agattatcat 1300  
 aatttttaaaa atttttcttt agtttttcaa aattttgttaa atgggtggcta 1350  
 tagaaaaaca acatgaaata ttatacaata ttttgcaaca atgccctaag 1400  
 aattgttaaa attcatggag ttatttgtgc agaattgactc cagagagctc 1450  
 tactttctgt tttttacttt tcatgattgg ctgtcttccc atttattctg 1500  
 gtcatttatt gctagtgaca ctgtgcctgc ttccagtagt ctcattttcc 1550  
 ctattttgct aatttgttac tttttctttg ctaatttggga agattaactc 1600  
 atttttaata aaattatgtc taagattaaa aaaaaaaaaa aaaaaaaaaa 1650  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700  
 a 1701

<210> 115  
 <211> 301  
 <212> PRT  
 <213> Homo sapiens

<400> 115  
 Met Arg Val Arg Ile Gly Leu Thr Leu Leu Leu Cys Ala Val Leu  
 1 5 10 15  
 Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp  
 20 25 30  
 Glu Ser Leu Asp Ser Lys Thr Thr Leu Thr Ser Asp Glu Ser Val  
 35 40 45  
 Lys Asp His Thr Thr Ala Gly Arg Val Val Ala Gly Gln Ile Phe  
 50 55 60  
 Leu Asp Ser Glu Glu Ser Glu Leu Glu Ser Ser Ile Gln Glu Glu  
 65 70 75  
 Glu Asp Ser Leu Lys Ser Gln Glu Gly Glu Ser Val Thr Glu Asp  
 80 85 90  
 Ile Ser Phe Leu Glu Ser Pro Asn Pro Glu Asn Lys Asp Tyr Glu  
 95 100 105  
 Glu Pro Lys Lys Val Arg Lys Pro Ala Leu Thr Ala Ile Glu Gly  
 110 115 120  
 Thr Ala His Gly Glu Pro Cys His Phe Pro Phe Leu Phe Leu Asp  
 125 130 135  
 Lys Glu Tyr Asp Glu Cys Thr Ser Asp Gly Arg Glu Asp Gly Arg  
 140 145 150  
 Leu Trp Cys Ala Thr Thr Tyr Asp Tyr Lys Ala Asp Glu Lys Trp  
 155 160 165

Gly	Phe	Cys	Glu	Thr	Glu	Glu	Glu	Ala	Ala	Lys	Arg	Arg	Gln	Met	170	175	180
Gln	Glu	Ala	Glu	Met	Met	Tyr	Gln	Thr	Gly	Met	Lys	Ile	Leu	Asn	185	190	195
Gly	Ser	Asn	Lys	Lys	Ser	Gln	Lys	Arg	Glu	Ala	Tyr	Arg	Tyr	Leu	200	205	210
Gln	Lys	Ala	Ala	Ser	Met	Asn	His	Thr	Lys	Ala	Leu	Glu	Arg	Val	215	220	225
Ser	Tyr	Ala	Leu	Leu	Phe	Gly	Asp	Tyr	Leu	Pro	Gln	Asn	Ile	Gln	230	235	240
Ala	Ala	Arg	Glu	Met	Phe	Glu	Lys	Leu	Thr	Glu	Glu	Gly	Ser	Pro	245	250	255
Lys	Gly	Gln	Thr	Ala	Leu	Gly	Phe	Leu	Tyr	Ala	Ser	Gly	Leu	Gly	260	265	270
Val	Asn	Ser	Ser	Gln	Ala	Lys	Ala	Leu	Val	Tyr	Tyr	Thr	Phe	Gly	275	280	285
Ala	Leu	Gly	Gly	Asn	Leu	Ile	Ala	His	Met	Val	Leu	Val	Ser	Arg	290	295	300

Leu

<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 116  
 cttcccagcc ctgtgcccga aagcacctgg agcatatagc cttgcagaac 50  
 ttctacttgc ctgcctccct gctcttgccc atggcctgcc ggtgcctcag 100  
 cttccttctg atggggacct tctgtcagt ttcccagaca gtcttgcccc 150  
 agctggatgc actgctggtc ttcccaggcc aagtggctca actctcctgc 200  
 acgctcagcc cccagcacgt caccatcagg gactacggtg tgtcctggta 250  
 ccagcagcgg gcaggcagtg ccctcgata tctcctctac taccgctcgg 300  
 aggaggatca ccaccggcct gctgacatcc ccgatcgatt ctgggcagcc 350  
 aaggatgagg ccacaaatgc ctgtgtcctc accattagtc ccgtgcagcc 400  
 tgaagacgac gcggattact actgctctgt tggctacggc tttagtcctt 450  
 aggggtgggg tgtgagatgg gtgcctcccc tctgcctccc atttctgccc 500  
 ctgaccttgg gtccctttta aactttctct gagccttgct tcccctctgt 550

**DECEMBER 1967**

ccaccaacgg cttcggcagc ctgagcgtca actacaccct cgtcgtgctg 500  
gatgacatta gcccagggaa ggagagcctg gggcccgcaca gtcctctctg 550  
gggtcaagag gaccccgcca gccagcagtg ggcacgaccg cgcttcacac 600  
agccctccaa gatgaggcgc cgggtgatcg cacggcccgt gggtagctcc 650  
gtgcggctca agtgcggtggc cagcgggcac cctcggcccg acatcacgtg 700  
gatgaaggac gaccaggcct tgacgcgccc agaggccgct gagcccagga 750  
agaagaagtg gacactgagc ctgaagaacc tgcggccgga ggacagcggc 800  
aaatacacct gccgcgtgtc gaaccgcgcg ggcgccatca acgccaccta 850  
caagggtgat gtgatccagc ggaccgcgtt caagcccgtg ctcacaggca 900  
cgcaccccggt gaacacgacg gtggacttcg gggggaccac gtccttcag 950  
tgcaagggtg gcagcgacgt gaagccggtg atccagtggc tgaagcgcgt 1000  
ggagtacggc gccgagggcc gccacaactc caccatcgat gtgggcggcc 1050  
agaagtttgt ggtgctgccc acgggtgacg tgtggtcgcg gcccgacggc 1100  
tcctacctca ataagctgct catcacccgt gcccgccagg acgatgcggg 1150  
catgtacatc tgccttggtg ccaacaccat gggctacagc ttccgcagcg 1200  
ccttcctcac cgtgctgcca gacccaaaac cgccagggcc acctgtggcc 1250  
tcctcgctct cggccactag cctgccgtgg cccgtggtca tcggcatccc 1300  
agccggcgct gtcttcatcc tgggcaccct gtcctgtgg ctttgccagg 1350  
cccagaagaa gccgtgcacc cccgcgctg cccctccct gcctgggcac 1400  
cgcccgcggg ggacggcccg cgaccgcagc ggagacaagg accttccctc 1450  
gttgggccgc ctcagcgtg gccctggtgt ggggctgtgt gaggagcatg 1500  
ggtctccggc agccccccag cacttactgg gccagggccc agttgctggc 1550  
cctaagttgt accccaaact ctacacagac atccacacac acacacacac 1600  
acactctcac acacactcac acgtggaggg caaggtccac cagcacatcc 1650  
actatcagtg ctagacggca ccgtatctgc agtgggcacg ggggggcggg 1700  
ccagacaggc agactgggag gatggaggac ggagctgcag acgaaggcag 1750  
gggacccatg gcgaggagga atggccagca ccccaggcag tctgtgtgtg 1800  
aggcatagcc cctggacaca cacacacaga cacacacact acctggatgc 1850  
atgtatgcac acacatgcgc gcacacgtgc tccctgaagg cacacgtacg 1900

**09-03-01**

tagagtttga gctgaagccc cgtatatatta atttattttg ttaaacacaa 3400

aa 3402

<210> 119

<211> 504

<212> PRT

<213> Homo sapiens

<400> 119

Met Thr Pro Ser Pro Leu Leu Leu Leu Leu Leu Pro Pro Leu Leu  
1 5 10 15

Leu Gly Ala Phe Pro Pro Ala Ala Ala Ala Arg Gly Pro Pro Lys  
20 25 30

Met Ala Asp Lys Val Val Pro Arg Gln Val Ala Arg Leu Gly Arg  
35 40 45

Thr Val Arg Leu Gln Cys Pro Val Glu Gly Asp Pro Pro Pro Leu  
50 55 60

Thr Met Trp Thr Lys Asp Gly Arg Thr Ile His Ser Gly Trp Ser  
65 70 75

Arg Phe Arg Val Leu Pro Gln Gly Leu Lys Val Lys Gln Val Glu  
80 85 90

Arg Glu Asp Ala Gly Val Tyr Val Cys Lys Ala Thr Asn Gly Phe  
95 100 105

Gly Ser Leu Ser Val Asn Tyr Thr Leu Val Val Leu Asp Asp Ile  
110 115 120

Ser Pro Gly Lys Glu Ser Leu Gly Pro Asp Ser Ser Ser Gly Gly  
125 130 135

Gln Glu Asp Pro Ala Ser Gln Gln Trp Ala Arg Pro Arg Phe Thr  
140 145 150

Gln Pro Ser Lys Met Arg Arg Arg Val Ile Ala Arg Pro Val Gly  
155 160 165

Ser Ser Val Arg Leu Lys Cys Val Ala Ser Gly His Pro Arg Pro  
170 175 180

Asp Ile Thr Trp Met Lys Asp Asp Gln Ala Leu Thr Arg Pro Glu  
185 190 195

Ala Ala Glu Pro Arg Lys Lys Lys Trp Thr Leu Ser Leu Lys Asn  
200 205 210

Leu Arg Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val Ser Asn  
215 220 225

Arg Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile Gln  
230 235 240

094190.064160

Arg	Thr	Arg	Ser	Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn	
				245					250					255	
Thr	Thr	Val	Asp	Phe	Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	
				260					265					270	
Arg	Ser	Asp	Val	Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	
				275					280					285	
Tyr	Gly	Ala	Glu	Gly	Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly	
				290					295					300	
Gln	Lys	Phe	Val	Val	Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro	
				305					310					315	
Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu	Leu	Ile	Thr	Arg	Ala	Arg	Gln	
				320					325					330	
Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly	
				335					340					345	
Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys	
				350					355					360	
Pro	Pro	Gly	Pro	Pro	Val	Ala	Ser	Ser	Ser	Ser	Ala	Thr	Ser	Leu	
				365					370					375	
Pro	Trp	Pro	Val	Val	Ile	Gly	Ile	Pro	Ala	Gly	Ala	Val	Phe	Ile	
				380					385					390	
Leu	Gly	Thr	Leu	Leu	Leu	Trp	Leu	Cys	Gln	Ala	Gln	Lys	Lys	Pro	
				395					400					405	
Cys	Thr	Pro	Ala	Pro	Ala	Pro	Pro	Leu	Pro	Gly	His	Arg	Pro	Pro	
				410					415					420	
Gly	Thr	Ala	Arg	Asp	Arg	Ser	Gly	Asp	Lys	Asp	Leu	Pro	Ser	Leu	
				425					430					435	
Ala	Ala	Leu	Ser	Ala	Gly	Pro	Gly	Val	Gly	Leu	Cys	Glu	Glu	His	
				440					445					450	
Gly	Ser	Pro	Ala	Ala	Pro	Gln	His	Leu	Leu	Gly	Pro	Gly	Pro	Val	
				455					460					465	
Ala	Gly	Pro	Lys	Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Ile	His	Thr	
				470					475					480	
His	Thr	His	Thr	His	Ser	His	Thr	His	Ser	His	Val	Glu	Gly	Lys	
				485					490					495	
Val	His	Gln	His	Ile	His	Tyr	Gln	Cys							
				500											

<210> 120

<211> 20

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 120  
cgagatgacg ccgagccccc 20

<210> 121  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 121  
cggttcgaca cgcggcaggt g 21

<210> 122  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 122  
tgctgtcct gctgccgccc ctgctgctgg gggccttccc gccgg 45

<210> 123  
<211> 4420  
<212> DNA  
<213> Homo sapiens

<400> 123  
cccagctgag gagccctgct caagacacgg tcaactggatc tgagaaactt 50  
cccaggggac cgcattccag agtcagtgac tctgtgaagc acccacatct 100  
acctcttgcc acgttcccac gggcttgggg gaaagatggt ggggaccaag 150  
gcctgggtgt tctccttccct ggtcctggaa gtcacatctg tggtggggag 200  
acagacgatg ctacccagc cagtaagaag agtccagcct gggaagaaga 250  
acccagcat ctttgccaag cctgccgaca ccctggagag ccctggtgag 300  
tggacaacat ggttcaacat cgactaccca ggcgggaagg gcgactatga 350  
gcggctggac gccattcgct tctactatgg ggaccgtgta tgtgcccgtc 400  
ccctgcggct agaggctcgg accactgact ggacacctgc gggcagcact 450  
ggccaggtgg tccatggtag tcccctgag ggtttctggt gcctcaacag 500  
ggagcagcgg cctggccaga actgctctaa ttacaccgta cgcttccctc 550  
gccaccagg atccctgcgc cgagacacag agcgcacatct gagcccatgg 600



tctccctgga	gcaagtgtct	agctgcctgt	ggtcagactg	gggtccagac	650
tcgcacacgc	atttgcttgg	cagagatggg	gtcgctgtgc	agtgaggcca	700
gcgaagaggg	tcagactgtc	atgggcccagg	actgtacagc	ctgtgacctg	750
acctgcccac	tgggcccagg	gaatgctgac	tgtgatgcct	gcatgtgcca	800
ggacttcatg	cttcatgggg	ctgtctccct	tcccggagg	gccccagcct	850
caggggctgc	tatctacctc	ctgaccaaga	cgccgaagct	gctgacccag	900
acagacagt	atgggagatt	ccgaatccct	ggcttgtgcc	ctgatggcaa	950
aagcatcctg	aagatcaca	aggtaagtt	tgccccatt	gtactcaca	1000
tgcccagac	tagcctgaag	gcagccacca	tcaaggcaga	gtttgtgagg	1050
gcagagactc	catacatggg	gatgaaccct	gagacaaaag	cacggagagc	1100
tgggcagagc	gtgtctctgt	gctgtaaggc	cacaggggaag	cccaggccag	1150
acaagtattt	ttggtatcat	aatgacacat	tgctggatcc	ttccctctac	1200
aagcatgaga	gcaagctggg	gctgaggaaa	ctgcagcagc	accaggctgg	1250
ggagtacttt	tgcaaggccc	agagtgatgc	tggggctgtg	aagtccaagg	1300
ttgcccagct	gattgtcaca	gcatctgatg	agactccttg	caaccagtt	1350
cctgagagct	atcttatccg	gctgccccat	gattgctttc	agaatgccac	1400
caactccttc	tactatgacg	tgggacgctg	ccctgttaag	acttgtgcag	1450
ggcagcagga	taatgggatc	agggtccgtg	atgctgtgca	gaactgctgt	1500
ggcatctcca	agacagagga	aaggagatc	cagtgcagtg	gctacacgct	1550
accaccaaag	gtggccaagg	agtgcagctg	ccagcgggtg	acggaaactc	1600
ggagcatcgt	gcggggccgt	gtcagtgtgt	ctgacaatgg	ggagcccatt	1650
cgctttggcc	atgtgtacat	ggggaacagc	cgtgtaagca	tgactggcta	1700
caagggcact	ttcacctcc	atgtcccca	ggacactgag	aggctgggtgc	1750
tcacatttgt	ggacaggctg	cagaagtttg	tcaacaccac	caaagtgcta	1800
cctttcaaca	agaaggggag	tgccgtgttc	catgaaatca	agatgcttcg	1850
tcggaaagag	cccatcactt	tgggaagccat	ggagaccaac	atcatcccc	1900
tgggggaagt	ggttggtgaa	gaccccatgg	ctgaactgga	gattccatcc	1950
aggagtttct	acaggcagaa	tggggagccc	tacataggaa	aagtgaaggc	2000
cagtgtgacc	ttcctggatc	cccgaatat	ttccacagcc	acagctgccc	2050

agactgacct gaacttcac aatgacgaag gagacacttt ccccttcgg 2100  
 acgtatggca tgttctctgt ggacttcaga gatgaggcca cctcagagcc 2150  
 acttaatgct ggcaaagtga aggtccacct tgactcgacc caggtcaaga 2200  
 tgccagagca catatccaca gtgaaactct ggtcactcaa tccagacaca 2250  
 gggctgtggg aggaggaagg tgatttcaaa ttgaaaatc aaaggaggaa 2300  
 caaaagagaa gacagaacct tcctgggtgg caacctggag attcgtgaga 2350  
 ggaggctctt taacctggat gttcctgaaa gcaggcgggtg ctttggttaag 2400  
 gtgagggcct accggagtga gaggttcttg cctagtgagc agatccaggg 2450  
 ggttgatgatc tccgtgatta acctggagcc tagaactggc ttcttggtcca 2500  
 accctagggc ctggggccgc ttgacagtg tcatcacagg cccaacggg 2550  
 gcctgtgtgc ctgccttctg tgatgaccag tccctgatg cctactctgc 2600  
 ctatgtcttg gcaagcctgg ctggggagga actgcaagca gtggagtctt 2650  
 ctctaaatt caacccaaat gcaattggcg tccctcagcc ctatctcaac 2700  
 aagctcaact accgtcggac ggaccatgag gatccacggg ttaaaaagac 2750  
 agctttccag attagcatgg ccaagccaag gcccaactca gctgaggaga 2800  
 gcaatgggcc catctatgcc ttgagaacc tccgggcatg tgaagaggca 2850  
 ccaccagtg cagccactt ccggttctac cagattgagg gggatcgata 2900  
 tgactacaac acagtcccct tcaacgaaga tgaccctatg agctggactg 2950  
 aagactatct ggcatgggtg ccaagccga tggaattcag ggctgctat 3000  
 atcaaggatga agattgtggg gccactggaa gtgaatgtgc gatcccgcaa 3050  
 catggggggc actcatcgcc ggacagtggg gaagctgtat ggaatccgag 3100  
 atgtgaggag cactcgggac agggaccagc ccaatgtctc agctgcctgt 3150  
 ctggagttca agtgacgtg gatgctctat gatcaggacc gtgtggaccg 3200  
 caccctgggtg aaggtcatcc cccagggcag ctgccgtcga gccagtgtga 3250  
 accccatgct gcatgagtac ctgggtcaacc acttgccact tgacgtcaac 3300  
 aacgacacca gtgagtacac catgctggca cccttgacc cactgggcca 3350  
 caactatggc atctacactg tcactgacca ggaccctcg acggccaagg 3400  
 agatcgcgct cggccgggtg ttgatggca catccgatg ctctccaga 3450  
 atcatgaaga gcaatgtggg agtagccctc accttcaact gtgtagagag 3500

gcaagtaggc cgccagagtg ccttccagta cctccaaagc accccagccc 3550  
 agtcccctgc tgcaggcact gtccaaggaa gagtgcctc gaggaggcag 3600  
 cagcgagcga gcaggggtgg ccagcgccag ggtggagtgg tggcctctct 3650  
 gagatttcct agagttgctc aacagcccct gatcaactaa gttttgtggt 3700  
 atttcaccct cttctgcctt catttcatgt gacagccatt gtgagactga 3750  
 tgcacaaaact gtcacttggg taatttaagc acttctgttt tctgtaattt 3800  
 gcttgtttgt ttcttcatgc ctttacttac tttgtcccat gctactgatt 3850  
 ggcacgtggc cccacaatg gcacaataaa gcccctttgt gaaactgttc 3900  
 tttaaagtga acacaagaaa ttggccactg gtaaaactct gcagcttcaa 3950  
 ctgtacttca tttaatgcca ttaatgcaaa tatacttcct cttctttttg 4000  
 catgggtttg cccacctctg caatagtgat aatctgatgc tgaagatcaa 4050  
 ataaccaata taaagcatat ttcttggcct tgctccacag gacataggca 4100  
 agccttgatc atagttcata catataaatg gtggtgaaat aaagaaataa 4150  
 aacacaatac ttttacttga aatgtaaata acttatttat ttctttgcta 4200  
 aatttggaat tctagtgcac attcaaagtt aagctattaa atataggggtg 4250  
 atcatagttc ctctaccaag tctggaaaga acatctcctg gtatccacaa 4300  
 ttacaccagg ttgctaactg tatttgtaca tttccctttg cattcgcttt 4350  
 tgttcttgct agaaaccag tgtagccag ggcagatgtc aataaatgca 4400  
 tactctgtat ttcgaaaaaa 4420

<210> 124

<211> 1184

<212> PRT

<213> Homo sapiens

<400> 124

Met	Val	Gly	Thr	Lys	Ala	Trp	Val	Phe	Ser	Phe	Leu	Val	Leu	Glu
1				5					10					15
Val	Thr	Ser	Val	Leu	Gly	Arg	Gln	Thr	Met	Leu	Thr	Gln	Ser	Val
				20					25					30
Arg	Arg	Val	Gln	Pro	Gly	Lys	Lys	Asn	Pro	Ser	Ile	Phe	Ala	Lys
				35					40					45
Pro	Ala	Asp	Thr	Leu	Glu	Ser	Pro	Gly	Glu	Trp	Thr	Thr	Trp	Phe
				50					55					60
Asn	Ile	Asp	Tyr	Pro	Gly	Gly	Lys	Gly	Asp	Tyr	Glu	Arg	Leu	Asp
				65					70					75

**000000000000**

365										370					375				
Cys	Lys	Ala	Gln	Ser	Asp	Ala	Gly	Ala	Val	Lys	Ser	Lys	Val	Ala					
				380					385					390					
Gln	Leu	Ile	Val	Thr	Ala	Ser	Asp	Glu	Thr	Pro	Cys	Asn	Pro	Val					
				395					400					405					
Pro	Glu	Ser	Tyr	Leu	Ile	Arg	Leu	Pro	His	Asp	Cys	Phe	Gln	Asn					
				410					415					420					
Ala	Thr	Asn	Ser	Phe	Tyr	Tyr	Asp	Val	Gly	Arg	Cys	Pro	Val	Lys					
				425					430					435					
Thr	Cys	Ala	Gly	Gln	Gln	Asp	Asn	Gly	Ile	Arg	Cys	Arg	Asp	Ala					
				440					445					450					
Val	Gln	Asn	Cys	Cys	Gly	Ile	Ser	Lys	Thr	Glu	Glu	Arg	Glu	Ile					
				455					460					465					
Gln	Cys	Ser	Gly	Tyr	Thr	Leu	Pro	Thr	Lys	Val	Ala	Lys	Glu	Cys					
				470					475					480					
Ser	Cys	Gln	Arg	Cys	Thr	Glu	Thr	Arg	Ser	Ile	Val	Arg	Gly	Arg					
				485					490					495					
Val	Ser	Ala	Ala	Asp	Asn	Gly	Glu	Pro	Met	Arg	Phe	Gly	His	Val					
				500					505					510					
Tyr	Met	Gly	Asn	Ser	Arg	Val	Ser	Met	Thr	Gly	Tyr	Lys	Gly	Thr					
				515					520					525					
Phe	Thr	Leu	His	Val	Pro	Gln	Asp	Thr	Glu	Arg	Leu	Val	Leu	Thr					
				530					535					540					
Phe	Val	Asp	Arg	Leu	Gln	Lys	Phe	Val	Asn	Thr	Thr	Lys	Val	Leu					
				545					550					555					
Pro	Phe	Asn	Lys	Lys	Gly	Ser	Ala	Val	Phe	His	Glu	Ile	Lys	Met					
				560					565					570					
Leu	Arg	Arg	Lys	Glu	Pro	Ile	Thr	Leu	Glu	Ala	Met	Glu	Thr	Asn					
				575					580					585					
Ile	Ile	Pro	Leu	Gly	Glu	Val	Val	Gly	Glu	Asp	Pro	Met	Ala	Glu					
				590					595					600					
Leu	Glu	Ile	Pro	Ser	Arg	Ser	Phe	Tyr	Arg	Gln	Asn	Gly	Glu	Pro					
				605					610					615					
Tyr	Ile	Gly	Lys	Val	Lys	Ala	Ser	Val	Thr	Phe	Leu	Asp	Pro	Arg					
				620					625					630					
Asn	Ile	Ser	Thr	Ala	Thr	Ala	Ala	Gln	Thr	Asp	Leu	Asn	Phe	Ile					
				635					640					645					
Asn	Asp	Glu	Gly	Asp	Thr	Phe	Pro	Leu	Arg	Thr	Tyr	Gly	Met	Phe					
				650					655					660					

[illegible]

950					955					960				
Val	Gly	Pro	Leu	Glu 965	Val	Asn	Val	Arg	Ser 970	Arg	Asn	Met	Gly	Gly 975
Thr	His	Arg	Arg	Thr 980	Val	Gly	Lys	Leu	Tyr 985	Gly	Ile	Arg	Asp	Val 990
Arg	Ser	Thr	Arg	Asp 995	Arg	Asp	Gln	Pro	Asn 1000	Val	Ser	Ala	Ala	Cys 1005
Leu	Glu	Phe	Lys	Cys 1010	Ser	Gly	Met	Leu	Tyr 1015	Asp	Gln	Asp	Arg	Val 1020
Asp	Arg	Thr	Leu	Val 1025	Lys	Val	Ile	Pro	Gln 1030	Gly	Ser	Cys	Arg	Arg 1035
Ala	Ser	Val	Asn	Pro 1040	Met	Leu	His	Glu	Tyr 1045	Leu	Val	Asn	His	Leu 1050
Pro	Leu	Ala	Val	Asn 1055	Asn	Asp	Thr	Ser	Glu 1060	Tyr	Thr	Met	Leu	Ala 1065
Pro	Leu	Asp	Pro	Leu 1070	Gly	His	Asn	Tyr	Gly 1075	Ile	Tyr	Thr	Val	Thr 1080
Asp	Gln	Asp	Pro	Arg 1085	Thr	Ala	Lys	Glu	Ile 1090	Ala	Leu	Gly	Arg	Cys 1095
Phe	Asp	Gly	Thr	Ser 1100	Asp	Gly	Ser	Ser	Arg 1105	Ile	Met	Lys	Ser	Asn 1110
Val	Gly	Val	Ala	Leu 1115	Thr	Phe	Asn	Cys	Val 1120	Glu	Arg	Gln	Val	Gly 1125
Arg	Gln	Ser	Ala	Phe 1130	Gln	Tyr	Leu	Gln	Ser 1135	Thr	Pro	Ala	Gln	Ser 1140
Pro	Ala	Ala	Gly	Thr 1145	Val	Gln	Gly	Arg	Val 1150	Pro	Ser	Arg	Arg	Gln 1155
Gln	Arg	Ala	Ser	Arg 1160	Gly	Gly	Gln	Arg	Gln 1165	Gly	Gly	Val	Val	Ala 1170
Ser	Leu	Arg	Phe	Pro 1175	Arg	Val	Ala	Gln	Gln 1180	Pro	Leu	Ile	Asn	

<210> 125

<212> DNA

<220>

<400> 125

<210> 126  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 126  
ccattgtgca ggtcagggtca cag 23

<210> 127  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 127  
ctggagcaag tgctcagctg cctgtggtca gactgggggtc 40

<210> 128  
<211> 2819  
<212> DNA  
<213> Homo sapiens

<400> 128  
ctgcaagttg ttaacgccta acacacaagt atgttaggct tccaccaaag 50  
tcctcaatat acctgaatac gcacaatatc ttaactcttc atatttggtt 100  
ttgggatctg ctttgagggtc ccattctcat ttaaaaaaaaaa atacagagac 150  
ctacctaccg gtacgcatac atacatatgt gtatatatat gtaaactaga 200  
caaagatcgc agatcataaa gcaagctctg ctttagtttc caagaagatt 250  
acaaagaatt tagagatgta tttgtcaaga tcctgtcga ttcattgcct 300  
ttgggttacg gtgtcctcag tgatgcagcc ctaccctttg gtttggggac 350  
attatgattt gtgtaagact cagatttaca cggaagaagg gaaagtttgg 400  
gattacatgg cctgccagcc ggaatccacg gacatgacaa aatatctgaa 450  
agtgaaactc gatcctccgg atattacctg tggagaccct cctgagacgt 500  
tctgtgcaat gggcaatccc tacatgtgca ataagagtg tgatgcgagt 550  
accctgagc tggcacaccc ccctgagctg atgtttgatt ttgaaggaag 600  
acatccctcc acattttggc agtctgccac ttggaaggag tatcccaagc 650  
ctctccaggt taacatcact ctgtcttgga gcaaaaccat tgagctaaca 700  
gacaacatag ttattacctt tgaatctggg cgtccagacc aaatgatcct 750



ggagaagtct ctcgattatg gacgaacatg gcagccctat cagtattatg 800  
 ccacagactg cttagatgct ttccacatgg atcctaaatc cgtgaaggat 850  
 ttatcacagc atacggtctt agaaatcatt tgcacagaag agtactcaac 900  
 agggatatca acaaatagca aaataatcca ctttgaaatc aaagacaggt 950  
 tcgcgctttt tgctggacct cgcctacgca atatggcttc cctctacgga 1000  
 cagctggata caaccaagaa actcagagat ttctttacag tcacagacct 1050  
 gaggataagg ctgttaagac cagccgttgg ggaaatattt gtagatgagc 1100  
 tacacttggc acgctacttt tacgcatctt cagacataaa ggtgcgagga 1150  
 aggtgcaagt gtaatctcca tgccactgta tgtgtgtatg acaacagcaa 1200  
 attgacatgc gaatgtgagc acaacactac aggtccagac tgtgggaaat 1250  
 gcaagaagaa ttatcagggc cgaccttggg gtccaggctc ctatctcccc 1300  
 atccccaaag gcaactgcaa tacctgtatc cccagtattt ccagtattgg 1350  
 tacgaatgtc tgcgacaacg agctcctgca ctgccagaac ggagggacgt 1400  
 gccacaacaa cgtgcgctgc ctgtgcccgg ccgcatacac gggcatcctc 1450  
 tgcgagaagc tgcggtgcca ggaggctggc agctgaggct ccgactctgg 1500  
 ccagggcgcg cccccgcacg gcaccccagc gctgctgctg ctgaccacgc 1550  
 tgctgggaac cgccagcccc ctgggtgttct aggtgtcacc tccagccaca 1600  
 ccggacgggc ctgtgcccgtg gggaagcaga cacaacccaa acatttgcta 1650  
 ctaacatagg aaacacacac atacagacac cccactcag acagtgtaca 1700  
 aactaagaag gcctaactga actaagccat atttatcacc cgtggacagc 1750  
 acatccgagt caagactgtt aatttctgac tccagaggag ttggcagctg 1800  
 ttgatattat cactgcaaat cacattgcca gctgcagagc atattgtgga 1850  
 ttggaaaggc tgcgacagcc ccccaaacag gaaagacaaa aaacaaacaa 1900  
 atcaaccgac ctaaaaacat tggctactct agcgtggtgc gccctagtac 1950  
 gactccgccc agtgtgtgga ccaaccaaatt agcattcttt gctgtcaggt 2000  
 gcattgtggg cataaggaaa tctgttacia gctgccatat tggcctgctt 2050  
 ccgtccctga atcccttcca acctgtgctt tagtgaacgt tgctctgtaa 2100  
 ccctcgttgg ttgaaagatt tctttgtctg atgttagtga tgcacatgtg 2150  
 taacagcccc ctctaaaagc gcaagccagt cataccctg tatatcttag 2200



Leu	Ser	Trp	Ser	Lys 140	Thr	Ile	Glu	Leu	Thr 145	Asp	Asn	Ile	Val	Ile 150
Thr	Phe	Glu	Ser	Gly 155	Arg	Pro	Asp	Gln	Met 160	Ile	Leu	Glu	Lys	Ser 165
Leu	Asp	Tyr	Gly	Arg 170	Thr	Trp	Gln	Pro	Tyr 175	Gln	Tyr	Tyr	Ala	Thr 180
Asp	Cys	Leu	Asp	Ala 185	Phe	His	Met	Asp	Pro 190	Lys	Ser	Val	Lys	Asp 195
Leu	Ser	Gln	His	Thr 200	Val	Leu	Glu	Ile	Ile 205	Cys	Thr	Glu	Glu	Tyr 210
Ser	Thr	Gly	Tyr	Thr 215	Thr	Asn	Ser	Lys	Ile 220	Ile	His	Phe	Glu	Ile 225
Lys	Asp	Arg	Phe	Ala 230	Leu	Phe	Ala	Gly	Pro 235	Arg	Leu	Arg	Asn	Met 240
Ala	Ser	Leu	Tyr	Gly 245	Gln	Leu	Asp	Thr	Thr 250	Lys	Lys	Leu	Arg	Asp 255
Phe	Phe	Thr	Val	Thr 260	Asp	Leu	Arg	Ile	Arg 265	Leu	Leu	Arg	Pro	Ala 270
Val	Gly	Glu	Ile	Phe 275	Val	Asp	Glu	Leu	His 280	Leu	Ala	Arg	Tyr	Phe 285
Tyr	Ala	Ile	Ser	Asp 290	Ile	Lys	Val	Arg	Gly 295	Arg	Cys	Lys	Cys	Asn 300
Leu	His	Ala	Thr	Val 305	Cys	Val	Tyr	Asp	Asn 310	Ser	Lys	Leu	Thr	Cys 315
Glu	Cys	Glu	His	Asn 320	Thr	Thr	Gly	Pro	Asp 325	Cys	Gly	Lys	Cys	Lys 330
Lys	Asn	Tyr	Gln	Gly 335	Arg	Pro	Trp	Ser	Pro 340	Gly	Ser	Tyr	Leu	Pro 345
Ile	Pro	Lys	Gly	Thr 350	Ala	Asn	Thr	Cys	Ile 355	Pro	Ser	Ile	Ser	Ser 360
Ile	Gly	Thr	Asn	Val 365	Cys	Asp	Asn	Glu	Leu 370	Leu	His	Cys	Gln	Asn 375
Gly	Gly	Thr	Cys	His 380	Asn	Asn	Val	Arg	Cys 385	Leu	Cys	Pro	Ala	Ala 390
Tyr	Thr	Gly	Ile	Leu 395	Cys	Glu	Lys	Leu	Arg 400	Cys	Glu	Glu	Ala	Gly 405
Ser	Cys	Gly	Ser	Asp 410	Ser	Gly	Gln	Gly	Ala 415	Pro	Pro	His	Gly	Thr 420
Pro	Ala	Leu	Leu	Leu	Leu	Thr	Thr	Leu	Leu	Gly	Thr	Ala	Ser	Pro

Leu Val Phe

<210> 130  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 130  
 tcgattatgg acgaacatgg cagc 24

<210> 131  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 131  
 ttctgagatc cctcatcctc 20

<210> 132  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 132  
 aggttcaggg acagcaagtt tggg 24

<210> 133  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 133  
 ttgctggac ctcggctacg gaattggctt ccctctacgg acagctggat 50

<210> 134  
 <211> 1493  
 <212> DNA  
 <213> Homo sapiens

<400> 134  
 cccacgcgtc cgggtgacct gggccgagcc ctcccggtcg gctaagattg 50  
 ctgaggaggc ggcgggtagc tggcaggcgc cgacttccga aggccgccgt 100

ccgggagagg tgcctcatg acttctcttg tggaccatgt ccgtgatctt 150  
 ttttgctgc gtggtacggg taagggatgg actgcccctc tcagcctcta 200  
 ctgattttta ccacacccaa gatttttttg aatggaggag acggctcaag 250  
 agtttagcct tgcgactggc ccagtatcca ggtcgagggt ctgcagaagg 300  
 ttgtgacttt agtatacatt tttcttcttt cggggacgtg gcctgcatgg 350  
 ctatctgctc ctgccagtgt ccagcagcca tggccttctg cttcctggag 400  
 accctgtggt ggggaattcac agcttcctat gacactacct gcattggcct 450  
 agcctccagg ccatacgtct ttcttgagtt tgacagcatc attcagaaag 500  
 tgaagtggca ttttaactat gtaagttcct ctcagatgga gtgcagcttg 550  
 gaaaaaattc aggaggagct caagttgcag cctccagcgg ttctcactct 600  
 ggaggacaca gatgtggcaa atgggggtgat gaatggcac acaccgatgc 650  
 acttgagacc tgctcctaatt ttccgaatgg aaccagtgc agcctgggt 700  
 atcctctccc tcattctcaa catcatgtgt gctgccctga atctcattcg 750  
 aggagttcac cttgcagaac attctttaca ggatccaagg agctggttct 800  
 gctggttga ccaaacctcg tgagccagcc acccctgacc caaatgagga 850  
 gagctctgat tctcccatcc gggagcagtg atgtcaaact tctgctgctg 900  
 gggaaatctc atcagcaggg agcctgtgga aaagggcatg tcagtgaaat 950  
 ctgggaatgg ctggattcgg aaacatctgc ccatgtgtat tgatggcaga 1000  
 gctgttgccc acaagcgctt tttatttagg gtaaaattaa caaatccatt 1050  
 ctattcctct gacccatgct tagtacatat gacctttaac cttacattt 1100  
 atatgattct ggggttgctt cagaagtgtt atttcatgaa tcattcatat 1150  
 gatttgatcc ccaggattc tattttgttt aatgggcttt tctactaaaa 1200  
 gcataaaata ctgaggctga tttagtcagg gcaaaacat ttactttaca 1250  
 tattcgtttt caatacttgc tgttcatgtt acacaagctt cttacggttt 1300  
 tcttgtaaca ataaatattt tgagtaaata atgggtacat tttacaaaac 1350  
 tcagtagtac aacctaaact tgtataaaag tgtgtaaaaa tgtatagcca 1400  
 tttatatcct atgtataaat taaatgaggt ggcttcagaa atggcagaat 1450  
 aaatctaaag tgtttattaa aaaaaaaaaa aaaaaaaaaa aag 1493

<210> 135

<211> 228

<212> PRT  
 <213> Homo sapiens

<400> 135

Met	Ser	Val	Ile	Phe	Phe	Ala	Cys	Val	Val	Arg	Val	Arg	Asp	Gly	
1				5					10					15	
Leu	Pro	Leu	Ser	Ala	Ser	Thr	Asp	Phe	Tyr	His	Thr	Gln	Asp	Phe	
				20					25					30	
Leu	Glu	Trp	Arg	Arg	Arg	Leu	Lys	Ser	Leu	Ala	Leu	Arg	Leu	Ala	
				35					40					45	
Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile	
				50					55					60	
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser	
				65					70					75	
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu	
				80					85					90	
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu	
				95					100					105	
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln	
				110					115					120	
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu	
				125					130					135	
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro	
				140					145					150	
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met	
				155					160					165	
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg	
				170					175					180	
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn	
				185					190					195	
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala	
				200					205					210	
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp	
				215					220					225	

Gln Thr Ser

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens  
 <220>

<221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
 tgcttcctgg agaccctgtg gtgggaattc acagcttcnt atgacactac 50  
 ctgcattggc ntagcctcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 ggttctcant atggaggaca cagatgtggc aaatgggggt 239

<210> 137  
 <211> 2300  
 <212> DNA  
 <213> Homo sapiens

<400> 137  
 ctcagcggcg cttcctcgta gcgagcctag tggcgggtgt ttgcattgaa 50  
 acgtgagcgc gacccgacct taaagagtgg ggagcaaagg gaggacagag 100  
 ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggc cggggcgctc 150  
 ggacgactgt atctgagccc cagactgccc cgagtttctg tcgcaggctg 200  
 cgaggaaagg cccttaggct gggctctgggt gcttggcggc ggcggcttcc 250  
 tccccgctcg tcctccccgg gccagaggc acctcggtt cagtcatgct 300  
 gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
 gctattccac gagaggatcc gcgagtgtat tatatcaaca cttctgtttg 400  
 caaactgta catcctctgc cacatcttcc tgaccgctt caagaagcct 450  
 gctgagttca ccacagtgga tgatgaagat gccaccgtca acaagattgc 500  
 gctcgagctg tgcaccttta ccctggcaat tgccctgggt gctgtcctgc 550  
 tcctgcctt ctccatcatc agcaatgagg tgctgctctc cctgcctcgg 600  
 aactactaca tccagtggct caacggctcc ctcattccatg gcctctggaa 650  
 ccttggtttt ctcttcccc aactgtccct catcttctc atgccctttg 700  
 catatttctt cactgagtct gagggctttg ctggctccag aaaggggtgc 750  
 ctgggccggg tctatgagac agtgggtgat ttgatgtcc tcaactctgt 800  
 ggtgctaggt atgggtgtgg tggcatcagc cattgtggac aagaacaagg 850  
 ccaacagaga gtcactctat gacttttggg agtactatct cccctacctc 900  
 tactcatgca tctccttctt tggggttctg ctgctcctgg tgtgtactcc 950

actgggtctc gcccgcatgt tctccgtcac tgggaagctg ctagtcaagc 1000  
 cccggctgct ggaagacctg gaggagcagc tgtactgctc agcctttgag 1050  
 gaggcagccc tgacccgcag gatctgtaat cctacttcct gctggctgcc 1100  
 tttagacatg gagctgtac acagacaggt cctggctctg cagacacaga 1150  
 gggtcctgct ggagaagagg cggaaggctt cagcctggca acggaacctg 1200  
 ggctaccccc tggctatgct gtgcttgctg gtgctgacgg gcctgtctgt 1250  
 gctcattgtg gccatccaca tcctggagct gctcatcgat gaggctgcca 1300  
 tgccccgagg catgcagggt acctccttag gccaggctctc cttctccaag 1350  
 ctgggctcct ttggtgccgt cattcagggt gtactcatct ttacctaata 1400  
 ggtgtcctca gttgtgggct tctatagctc tccactcttc cggagcctgc 1450  
 ggcccagatg gcacgacact gccatgacgc agataattgg gaactgtgtc 1500  
 tgtctcctgg tcctaagctc agcacttcct gtcttctctc gaacctggg 1550  
 gctcactcgc tttgacctgc tgggtgactt tggacgcttc aactggctgg 1600  
 gcaatttcta cattgtgttc ctctacaacg cagcctttgc aggctcacc 1650  
 aactctgtc tgggtgaagac cttcactgca gctgtgcggg cagagctgat 1700  
 ccgggccttt gggctggaca gactgccgct gcccgctctc ggtttcccc 1750  
 aggcattctag gaagaccag caccagtgc ctccagctgg gggtaggaag 1800  
 gaaaaaactg gacactgcca tctgctgcct aggcctggag ggaagcccaa 1850  
 ggctacttgg acctcaggac ctggaatctg agaggggtggg tggcagagg 1900  
 gagcagagcc atctgcacta ttgcataatc tgagccagag tttgggacca 1950  
 ggacctcctg cttttccata cttaactgtg gcctcagcat ggggtagggc 2000  
 tgggtgactg ggtctagccc ctgatcccaa atctgtttac acatcaatct 2050  
 gcctcactgc tgttctgggc catccccata gccatgttta catgatttga 2100  
 tgtgcaatag ggtggggtag gggcagggaa aggactgggc cagggcaggc 2150  
 tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
 tgtgtctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
 gaggaggagg cttcagccat cagcaataaa gttgatccca gggaaaaaaa 2300

<210> 138  
 <211> 489  
 <212> PRT  
 <213> Homo sapiens



<400> 138

Met	Glu	Ala	Pro	Asp	Tyr	Glu	Val	Leu	Ser	Val	Arg	Glu	Gln	Leu	1	5	10	15
Phe	His	Glu	Arg	Ile	Arg	Glu	Cys	Ile	Ile	Ser	Thr	Leu	Leu	Phe	20	25	30	
Ala	Thr	Leu	Tyr	Ile	Leu	Cys	His	Ile	Phe	Leu	Thr	Arg	Phe	Lys	35	40	45	
Lys	Pro	Ala	Glu	Phe	Thr	Thr	Val	Asp	Asp	Glu	Asp	Ala	Thr	Val	50	55	60	
Asn	Lys	Ile	Ala	Leu	Glu	Leu	Cys	Thr	Phe	Thr	Leu	Ala	Ile	Ala	65	70	75	
Leu	Gly	Ala	Val	Leu	Leu	Leu	Pro	Phe	Ser	Ile	Ile	Ser	Asn	Glu	80	85	90	
Val	Leu	Leu	Ser	Leu	Pro	Arg	Asn	Tyr	Tyr	Ile	Gln	Trp	Leu	Asn	95	100	105	
Gly	Ser	Leu	Ile	His	Gly	Leu	Trp	Asn	Leu	Val	Phe	Leu	Phe	Pro	110	115	120	
Asn	Leu	Ser	Leu	Ile	Phe	Leu	Met	Pro	Phe	Ala	Tyr	Phe	Phe	Thr	125	130	135	
Glu	Ser	Glu	Gly	Phe	Ala	Gly	Ser	Arg	Lys	Gly	Val	Leu	Gly	Arg	140	145	150	
Val	Tyr	Glu	Thr	Val	Val	Met	Leu	Met	Leu	Leu	Thr	Leu	Leu	Val	155	160	165	
Leu	Gly	Met	Val	Trp	Val	Ala	Ser	Ala	Ile	Val	Asp	Lys	Asn	Lys	170	175	180	
Ala	Asn	Arg	Glu	Ser	Leu	Tyr	Asp	Phe	Trp	Glu	Tyr	Tyr	Leu	Pro	185	190	195	
Tyr	Leu	Tyr	Ser	Cys	Ile	Ser	Phe	Leu	Gly	Val	Leu	Leu	Leu	Leu	200	205	210	
Val	Cys	Thr	Pro	Leu	Gly	Leu	Ala	Arg	Met	Phe	Ser	Val	Thr	Gly	215	220	225	
Lys	Leu	Leu	Val	Lys	Pro	Arg	Leu	Leu	Glu	Asp	Leu	Glu	Glu	Gln	230	235	240	
Leu	Tyr	Cys	Ser	Ala	Phe	Glu	Glu	Ala	Ala	Leu	Thr	Arg	Arg	Ile	245	250	255	
Cys	Asn	Pro	Thr	Ser	Cys	Trp	Leu	Pro	Leu	Asp	Met	Glu	Leu	Leu	260	265	270	
His	Arg	Gln	Val	Leu	Ala	Leu	Gln	Thr	Gln	Arg	Val	Leu	Leu	Glu	275	280	285	

Lys	Arg	Arg	Lys	Ala 290	Ser	Ala	Trp	Gln	Arg 295	Asn	Leu	Gly	Tyr	Pro 300
Leu	Ala	Met	Leu	Cys 305	Leu	Leu	Val	Leu	Thr 310	Gly	Leu	Ser	Val	Leu 315
Ile	Val	Ala	Ile	His 320	Ile	Leu	Glu	Leu	Leu 325	Ile	Asp	Glu	Ala	Ala 330
Met	Pro	Arg	Gly	Met 335	Gln	Gly	Thr	Ser	Leu 340	Gly	Gln	Val	Ser	Phe 345
Ser	Lys	Leu	Gly	Ser 350	Phe	Gly	Ala	Val	Ile 355	Gln	Val	Val	Leu	Ile 360
Phe	Tyr	Leu	Met	Val 365	Ser	Ser	Val	Val	Gly 370	Phe	Tyr	Ser	Ser	Pro 375
Leu	Phe	Arg	Ser	Leu 380	Arg	Pro	Arg	Trp	His 385	Asp	Thr	Ala	Met	Thr 390
Gln	Ile	Ile	Gly	Asn 395	Cys	Val	Cys	Leu	Leu 400	Val	Leu	Ser	Ser	Ala 405
Leu	Pro	Val	Phe	Ser 410	Arg	Thr	Leu	Gly	Leu 415	Thr	Arg	Phe	Asp	Leu 420
Leu	Gly	Asp	Phe	Gly 425	Arg	Phe	Asn	Trp	Leu 430	Gly	Asn	Phe	Tyr	Ile 435
Val	Phe	Leu	Tyr	Asn 440	Ala	Ala	Phe	Ala	Gly 445	Leu	Thr	Thr	Leu	Cys 450
Leu	Val	Lys	Thr	Phe 455	Thr	Ala	Ala	Val	Arg 460	Ala	Glu	Leu	Ile	Arg 465
Ala	Phe	Gly	Leu	Asp 470	Arg	Leu	Pro	Leu	Pro 475	Val	Ser	Gly	Phe	Pro 480
Gln	Ala	Ser	Arg	Lys 485	Thr	Gln	His	Gln						

```
<210> 139
<211> 294
<212> DNA
<213> Homo sapiens
```

```
<400> 139
ggctgccgag ggaaggcccc ttgggttggg cttggttgct tggcggcggc 50
ggnttentec ccgctcgtcc tccccggggc cagaggcacc tcggcttcag 100
tcatgctqag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150
```

gagaacagct attccacgag aggatccgcg agtgtattat atcaacactt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttcctga cccgcttcaa 250  
 gaagcctgct gagttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaagga ggacagagcc ttttaaaacg 50  
 aggcggtggt gcctgccctt taaggcgagg gcgtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggctgagag gaaaggcccc 150  
 taggctgggt ctggtgcttg gcggcgaggc ctctctcccc gttgtcttcc 200  
 ccggggccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
 cacctgacta cgaagtgcta tccgtgagag aacagctatt ccacgagagg 300  
 atccgcgagt gtattatata aacacttctg tttgcaacac tgtacatct 350  
 ctgccacatc ttctgaccc gcttcaagaa gcctgctgag ttcaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctcga gctgtgcacc 450  
 tttaccctgg caattgccct ggggtgctgtc ctgctcctgc ccttctccat 500  
 catcagcaat gaggtgctgc actccc 526

<210> 141  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 141  
 gactgtatct gagccccaga ctgc 24

<210> 142  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 142  
tcagcaatga ggtgctgctc 20

<210> 143  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 143  
tgaggaagat gagggacagg ttgg 24

<210> 144  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 144  
tatggaagca cctgactacg aagtgcctatc cgtgcgagaa cagctattcc 50

<210> 145  
<211> 685  
<212> DNA  
<213> Homo sapiens

<400> 145  
gatgtgctcc ttggagctgg tgtgcagtgt cctgactgta agatcaagtc 50  
caaacctggt ttggaattga ggaaacttct cttttgatct cagcccttgg 100  
tggtccaggt cttcatgctg ctgtgggtga tattactggc cctggctcct 150  
gtcagtggac agtttgcaag gacacccagg cccattattt tcctccagcc 200  
tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250  
gatttcgctt ctactcacca cagaaaacaa aatggtacca tcggtacctt 300  
gggaaagaaa tactaagaga aaccccagac aatatacctg aggttcagga 350  
atctggagag tacagatgcc aggccaggg ctcccctctc agtagccctg 400  
tgcacttga tttttcttca gagatgggat ttccctcatgc tgcccaggct 450  
aatgttgaac tcctgggctc aagtgatctg ctcacctagg cctctcaaag 500  
cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
aaggagactc tgtggttctg aggtgccggg caaaggcgga agtaacactg 600  
aataatacta tttaacaaga tgataatgtc ctggcattcc ttaataaaaag 650  
aactgacttc caaaaaaaaaa aaaaaaaaaa aaaaaa 685

[illegible]

**09-07-2016**

[illegible][illegible]

ttcatgtttg gaggaacccc tcgtcagcaa gacagaaata ttccaagagg 550  
aagtgatatt attgtagatc tagaagtcac tttggaagaa gtatatgcag 600  
gaaattttgt ggaagtagtt agaaacaaac ctgtggcaag gcaggctcct 650  
ggcaaacgga agtgcaattg tcggcaagag atgcggacca cccagctggg 700  
ccctgggagc ttccaaatga cccaggaggt ggtctgagac gaatgcccta 750  
atgtcaaact agtgaatgaa gaacgaacgc tggaagtaga aatagagcct 800  
ggggtgagag acggcatgga gtaccctttt attggagaag gtgagcctca 850  
cgtggatggg gagcctggag atttacgggt ccgaatcaaa gttgtcaagc 900  
acccaatatt tgaaaggaga ggagatgatt tgtacacaaa tgtgacaatc 950  
tcattagtgt agtcactggt tggctttgag atggatatta ctacttgga 1000  
tggtcacaag gtacatattt cccgggataa gatcaccagg ccaggagcga 1050  
agctatggaa gaaaggggaa gggctcccca actttgacaa caacaatatc 1100  
aagggtcttt tgataatcac ttttgatgtg gattttccaa aagaacagtt 1150  
aacagaggaa gcgagagaag gtatcaaaca gctactgaaa caagggtcag 1200  
tgcagaaggt atacaatgga ctgcaaggat attgagagtg aataaaattg 1250  
gactttgttt aaaataagtg aataagcgat atttattatc tgcaaggttt 1300  
ttttgtgtgt gttttgttt ttattttcaa tatgcaagtt aggcttaatt 1350  
tttttatcta atgatcatca tgaaatgaat aagagggtt aagaatttgt 1400  
ccatttgcat tcggaaaaga atgaccagca aaagggtttac taatacctct 1450  
ccctttgggg atttaatgtc tgggtgctgcc gcctgagttt caagaattaa 1500  
agctgcaaga ggactccagg agcaaaagaa acacaatata gagggttgga 1550  
gttgtagca atttcattca aaatgccaac tggagaagtc tgtttttaaa 1600  
tacattttgt tgttattttt a 1621

<210> 148

<211> 358

<212> PRT

<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr
1				5					10					15

Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu
				20					25					30

Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr	
				35					40					45	
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp	
				50					55					60	
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu	
				65					70					75	
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly	
				80					85					90	
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile	
				95					100					105	
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr	
				110					115					120	
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile	
				125					130					135	
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe	
				140					145					150	
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly	
				155					160					165	
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu	
				170					175					180	
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu	
				185					190					195	
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val	
				200					205					210	
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile	
				215					220					225	
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg	
				230					235					240	
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly	
				245					250					255	
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu	
				260					265					270	
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val	
				275					280					285	
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp	
				290					295					300	
Lys	Lys	Gly	Glu	Gly	Leu	Pro	Asn	Phe	Asp	Asn	Asn	Asn	Ile	Lys	
				305					310					315	
Gly	Ser	Leu	Ile	Ile	Thr	Phe	Asp	Val	Asp	Phe	Pro	Lys	Glu	Gln	

320	325	330
Leu Thr Glu Glu Ala Arg Glu Gly Ile Lys Gln Leu Leu Lys Gln		
335	340	345
Gly Ser Val Gln Lys Val Tyr Asn Gly Leu Gln Gly Tyr		
350	355	

<210> 149  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445, 482  
 <223> unknown base

<400> 149  
 tgggaccagg gaaccccggtg ccccccgggtg gagngcctaa caggccggtg 50  
 gntgcgaccg aagcggcggtg cggaggaggt tttgaggatt tttggaacag 100  
 gacccggaca gaggaaccat ggttccgcag aacntgagca cnttttgcct 150  
 gttgntgnta tacttcatcg gggcgggtgat tgccggacga gatttntata 200  
 agattttggg gtgcctngaa gtgccttnta taaaggatat taaaaaggcc 250  
 tataggaaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
 acaagcccag gagaaattcc aggatttggg tgctgcttat gaggttntgt 350  
 cagatagtga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
 aaagatggtg atcagagctc ccatggagac atttttttcac acttntttgg 450  
 ggattttggt ttcattgtttg gaggaacccc tngtcagcaa gacagaaata 500  
 ttccaagag 509

<210> 150  
 <211> 1532  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
 ggcacgaggc ggcggggcag tcgcgggatg cgcccgggag ccacagcctg 50  
 aggccctcag gtctctgcag gtgtcgtgga ggaacctagc acctgccatc 100  
 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
 gaccgggact gagtcaggag ccctctggaa gcatggagac tgtggtgatt 200  
 gttgccatag gtgtgctggc caccatcttt ctggcttcgt ttgcagcctt 250



ggtgctggtt tgcaggcagc gctactgccg gccgcgagac ctgctgcagc 300  
 gctatgattc taagcccatt gtggacctca ttggtgccat ggagaccag 350  
 tctgagccct ctgagttaga actggacgat gtcgttatca ccaaccccc 400  
 cattgaggcc attctggaga atgaagactg gatcgaagat gcctcgggtc 450  
 tcatgtccca ctgcattgcc atcttgaaga tttgtcacac tctgacagag 500  
 aagcttgttg ccatgacaat gggctctggg gccaatga agacttcagc 550  
 cagtgtcagc gacatcattg tgggtggccaa gcggatcagc cccagggtgg 600  
 atgatgttgt gaagtcatg taccctcctg tggaccccaa actcctggac 650  
 gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgctggtgac 700  
 aaggaatgcc tgccatctga cgggaggcct ggactggatt gaccagtctc 750  
 tgtcggctgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
 tctgagccag ataaaggcct cccaggccct gaaggcttcc tgcaggagca 850  
 gtctgcaatt tagtgctac aggccagcag ctagccatga aggccctgc 900  
 cgccatccct ggatggctca gcttagcctt ctactttttc ctatagagtt 950  
 agttgttctc cacggctgga gagttcagct gtgtgtgcat agtaaagcag 1000  
 gagatccccg tcagtttatg cctcttttgc agttgcaaac tgtggctggg 1050  
 gagtggcagt ctaatactac agttagggga gatgccattc actctctgca 1100  
 agaggagtat tgaaaactgg tggactgtca gctttattta gctcacctag 1150  
 tgttttcaag aaaattgagc caccgtctaa gaaatcaaga ggtttcacat 1200  
 taaaattaga atttctggcc tctctcgatc ggtcagaatg tgtggcaatt 1250  
 ctgatctgca ttttcagaag aggacaatca attgaaacta agtaggggtt 1300  
 tcttcttttg gcaagacttg tactctctca cctggcctgt ttcatttatt 1350  
 tgtattatct gcctgggtccc tgaggcgtct gggctctctcc tctcccttgc 1400  
 aggtttgggt ttgaagctga ggaactacaa agttgatgat ttctttttta 1450  
 tctttatgcc tgcaatttta cctagctacc actaggtgga tagtaaattt 1500  
 atacttatgt ttccctcaaa aaaaaaaaaa aa 1532

<210> 151  
 <211> 226  
 <212> PRT  
 <213> Homo sapiens  
 <400> 151

Met	Glu	Thr	Val	Val	Ile	Val	Ala	Ile	Gly	Val	Leu	Ala	Thr	Ile	1	5	10	15
Phe	Leu	Ala	Ser	Phe	Ala	Ala	Leu	Val	Leu	Val	Cys	Arg	Gln	Arg	20	25	30	
Tyr	Cys	Arg	Pro	Arg	Asp	Leu	Leu	Gln	Arg	Tyr	Asp	Ser	Lys	Pro	35	40	45	
Ile	Val	Asp	Leu	Ile	Gly	Ala	Met	Glu	Thr	Gln	Ser	Glu	Pro	Ser	50	55	60	
Glu	Leu	Glu	Leu	Asp	Asp	Val	Val	Ile	Thr	Asn	Pro	His	Ile	Glu	65	70	75	
Ala	Ile	Leu	Glu	Asn	Glu	Asp	Trp	Ile	Glu	Asp	Ala	Ser	Gly	Leu	80	85	90	
Met	Ser	His	Cys	Ile	Ala	Ile	Leu	Lys	Ile	Cys	His	Thr	Leu	Thr	95	100	105	
Glu	Lys	Leu	Val	Ala	Met	Thr	Met	Gly	Ser	Gly	Ala	Lys	Met	Lys	110	115	120	
Thr	Ser	Ala	Ser	Val	Ser	Asp	Ile	Ile	Val	Val	Ala	Lys	Arg	Ile	125	130	135	
Ser	Pro	Arg	Val	Asp	Asp	Val	Val	Lys	Ser	Met	Tyr	Pro	Pro	Leu	140	145	150	
Asp	Pro	Lys	Leu	Leu	Asp	Ala	Arg	Thr	Thr	Ala	Leu	Leu	Leu	Ser	155	160	165	
Val	Ser	His	Leu	Val	Leu	Val	Thr	Arg	Asn	Ala	Cys	His	Leu	Thr	170	175	180	
Gly	Gly	Leu	Asp	Trp	Ile	Asp	Gln	Ser	Leu	Ser	Ala	Ala	Glu	Glu	185	190	195	
His	Leu	Glu	Val	Leu	Arg	Glu	Ala	Ala	Leu	Ala	Ser	Glu	Pro	Asp	200	205	210	
Lys	Gly	Leu	Pro	Gly	Pro	Glu	Gly	Phe	Leu	Gln	Glu	Gln	Ser	Ala	215	220	225	

Ile

<210> 152  
 <211> 1027  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1017, 1020  
 <223> unknown base

```

<400> 152
gcttcatttc tcccgaactca gcttcccacc ctgggctttc cgagggtgctt 50

tcgccgctgt ccccaccact gcagccatga tctccttaac ggacacgcag 100

aaaattggaa tgggattaac aggatttga gtgtttttcc tgttctttgg 150

aatgattctc ttttttgaca aagcactact ggctattgga aatgttttat 200

ttgtagccgg cttggctttt gtaattgggt tagaaagaac attcagattc 250

ttcttccaaa aacataaaat gaaagctaca ggtttttttc tgggtggtgt 300

atttgtagtc cttattgggt ggcctttgat aggcatgatc ttcgaaattt 350

atggattttt tctcttggtc aggggcttct ttcctgtcgt tgttggtttt 400

attagaagag tgccagtcct tggatccctc ctaaatttac ctggaattag 450

atcatttgta gataaagttg gagaaagcaa caatatggta taacaacaag 500

tgaatttgaa gactcattta aaatattgtg ttatttataa agtcatttga 550

agaatattca gcacaaaatt aaattacatg aaatagcttg taatgttctt 600

tacaggagtt taaaacgtat agcctacaaa gtaccagcag caaattagca 650

aagaagcagt gaaaacaggc ttctactcaa gtgaactaag aagaagtcag 700

caagcaaact gagagagggtg aaatccatgt taatgatgct taagaaactc 750

ttgaaggcta tttgtgttgt ttttccacaa tgtgcgaaac tcagccatcc 800

ttagagaact gtgggtgcctg tttcttttct ttttattttg aaggctcagg 850

agcatccata ggcatttgct ttttagaagt gtccactgca atggcaaaaa 900

tatttccagt tgcactgtat ctctggaagt gatgcatgaa ttcgattgga 950

ttgtgtcatt ttaaagtatt aaaaccaagg aaacccaat tttgatgtat 1000

ggattacttt tttttgngcn cagggcc 1027

```

```

<210> 153
<211> 138
<212> PRT
<213> Homo sapiens

```

```

<220>
<221> N-myristoylation Sites
<222> 11-16, 51-56 and 116-121
<223> N-myristoylation Sites.

```

```

<220>
<221> Transmembrane domains
<222> 12-30, 33-52, 69-89 and 93-109
<223> Transmembrane domains

```

<220>  
 <221> Aminoacyl-transfer RNA Synthetases.  
 <222> 49-59  
 <223> Aminoacyl-transfer RNA synthetases class-II protein.

<400> 153

Met	Ile	Ser	Leu	Thr	Asp	Thr	Gln	Lys	Ile	Gly	Met	Gly	Leu	Thr	1	5	10	15
Gly	Phe	Gly	Val	Phe	Phe	Leu	Phe	Phe	Gly	Met	Ile	Leu	Phe	Phe	20	25	30	
Asp	Lys	Ala	Leu	Leu	Ala	Ile	Gly	Asn	Val	Leu	Phe	Val	Ala	Gly	35	40	45	
Leu	Ala	Phe	Val	Ile	Gly	Leu	Glu	Arg	Thr	Phe	Arg	Phe	Phe	Phe	50	55	60	
Gln	Lys	His	Lys	Met	Lys	Ala	Thr	Gly	Phe	Phe	Leu	Gly	Gly	Val	65	70	75	
Phe	Val	Val	Leu	Ile	Gly	Trp	Pro	Leu	Ile	Gly	Met	Ile	Phe	Glu	80	85	90	
Ile	Tyr	Gly	Phe	Phe	Leu	Leu	Phe	Arg	Gly	Phe	Phe	Pro	Val	Val	95	100	105	
Val	Gly	Phe	Ile	Arg	Arg	Val	Pro	Val	Leu	Gly	Ser	Leu	Leu	Asn	110	115	120	
Leu	Pro	Gly	Ile	Arg	Ser	Phe	Val	Asp	Lys	Val	Gly	Glu	Ser	Asn	125	130	135	

Asn Met Val

<210> 154  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 66  
 <223> unknown base

<400> 154

gaagacgtgg cggtctcgc ctgggctgtt tcccggcttc atttctcccg 50  
 actcagcttc ccacntggg ctttccgagg tgetttcgcc gctgtcccca 100  
 ccaactgcagc catgatctcc ttaacggaca cgcagaaaat tggaatggga 150  
 ttaaccggat ttggagtgtt tttcctgttc tttggaatga ttctcttttt 200  
 tgacaaagca ctactggcta ttggaaatgt tttatttgta gccggcttgg 250  
 cttttgtaat tggtttagaa agaacattca gattcttctt ccaaaaacat 300

aaaatgaaag ctacaggttt ttttctgggt ggtgtatttg tagtccttat 350  
 tggttggcct ttgataggca tgatcttcga aatttatgga ttttttctct 400  
 tgttc 405

<210> 155  
 <211> 1781  
 <212> DNA  
 <213> Homo sapiens

<400> 155  
 ggcacgaggc tgaaccagc cggctccatc tcagcttctg gtttctaagt 50  
 ccatgtgcc aaggctgcc ggaaggagac gccttctga gtctggatc 100  
 tttcttcctt ctggaaatct ttgactgtgg gtagttattt atttctgaat 150  
 aagagcgtcc acgcatcatg gacctcggg gactgctgaa gtctcagttc 200  
 ctgtgccacc tggcttctg ctacgtcttt attgcctcag ggctaactcat 250  
 caacaccatt cagctcttca ctctctcct ctggccatt aacaagcagc 300  
 tcttcggaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgctgc tggagtggg gtcgggcacg gaatgcacca tcttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aaatgccatc gtggttctca 450  
 accacaagtt tgaaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
 tttgggctgt tagggggctc caaggctctg gccaaagaa agctggccta 550  
 tgtcccaatt atcggtgga tgtggtactt caccgagatg gtcttctgtt 600  
 cgcgcaagtg ggagcaggat cgcaagacgg ttgccaccag tttgcagcac 650  
 ctccgggact accccgagaa gtatTTTTT ctgattcact gtgagggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcaggtg gcccgggcca 750  
 aggggctgcc tcgcctcaag catcacctgt tgccacgaac caagggcttc 800  
 gccatcaccg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
 tacactcaat ttcagaaata atgaaaatcc aacactgctg ggagtcctaa 900  
 acggaaagaa ataccatgca gatttgtatg ttaggaggat cccactggaa 950  
 gacatccctg aagacgatga cgagtgtcgc gcctggctgc acaagctcta 1000  
 ccaggagaag gatgcctttc aggaggagta ctacaggacg ggcaccttcc 1050  
 cagagacgcc catggtgccc ccccggggc cctggaccct cgtgaactgg 1100  
 ctgttttggg cctcgtggg gctctaccct ttcttcagtt tcctggtcag 1150

catgatcagg agcgggtctt ccctgacgct ggccagcttc atcctcgtct 1200  
tctttgtggc ctccgtggga gttcgatgga tgattggtgt gacggaaatt 1250  
gacaagggct ctgcctacgg caactctgac agcaagcaga aactgaatga 1300  
ctgactcagg gaggtgtcac catccgaagg gaaccttggg gaactggtgg 1350  
cctctgcata tcctccttag tgggacacgg tgacaaaggc tgggtgagcc 1400  
cctgctgggc acggcggaag tcacgacctc tccagccagg gagtctggtc 1450  
tcaaggccgg atggggagga agatgttttg taatcttttt ttcccatgt 1500  
gcttttagtgg gctttggttt tctttttgtg cgagtgtgtg tgagaatggc 1550  
tgtgtggtga gtgtgaactt tgttctgtga tcatagaaag ggtatttttag 1600  
gctgcagggg agggcagggc tggggaccga aggggacaag ttcccctttc 1650  
atcctttggt gctgagtttt ctgtaaccct tggttgccag agataaagtg 1700  
aaaagtgctt taggtgagat gactaaatta tgctccaag aaaaaaaaaat 1750  
taaagtgctt ttctgggtca aaaaaaaaaa a 1781

<210> 156  
<211> 378  
<212> PRT  
<213> Homo sapiens

<400> 156  
Met Asp Leu Ala Gly Leu Leu Lys Ser Gln Phe Leu Cys His Leu  
1 5 10 15  
Val Phe Cys Tyr Val Phe Ile Ala Ser Gly Leu Ile Ile Asn Thr  
20 25 30  
Ile Gln Leu Phe Thr Leu Leu Leu Trp Pro Ile Asn Lys Gln Leu  
35 40 45  
Phe Arg Lys Ile Asn Cys Arg Leu Ser Tyr Cys Ile Ser Ser Gln  
50 55 60  
Leu Val Met Leu Leu Glu Trp Trp Ser Gly Thr Glu Cys Thr Ile  
65 70 75  
Phe Thr Asp Pro Arg Ala Tyr Leu Lys Tyr Gly Lys Glu Asn Ala  
80 85 90  
Ile Val Val Leu Asn His Lys Phe Glu Ile Asp Phe Leu Cys Gly  
95 100 105  
Trp Ser Leu Ser Glu Arg Phe Gly Leu Leu Gly Gly Ser Lys Val  
110 115 120  
Leu Ala Lys Lys Glu Leu Ala Tyr Val Pro Ile Ile Gly Trp Met  
125 130 135

Trp	Tyr	Phe	Thr	Glu	Met	Val	Phe	Cys	Ser	Arg	Lys	Trp	Glu	Gln
				140					145					150
Asp	Arg	Lys	Thr	Val	Ala	Thr	Ser	Leu	Gln	His	Leu	Arg	Asp	Tyr
				155					160					165
Pro	Glu	Lys	Tyr	Phe	Phe	Leu	Ile	His	Cys	Glu	Gly	Thr	Arg	Phe
				170					175					180
Thr	Glu	Lys	Lys	His	Glu	Ile	Ser	Met	Gln	Val	Ala	Arg	Ala	Lys
				185					190					195
Gly	Leu	Pro	Arg	Leu	Lys	His	His	Leu	Leu	Pro	Arg	Thr	Lys	Gly
				200					205					210
Phe	Ala	Ile	Thr	Val	Arg	Ser	Leu	Arg	Asn	Val	Val	Ser	Ala	Val
				215					220					225
Tyr	Asp	Cys	Thr	Leu	Asn	Phe	Arg	Asn	Asn	Glu	Asn	Pro	Thr	Leu
				230					235					240
Leu	Gly	Val	Leu	Asn	Gly	Lys	Lys	Tyr	His	Ala	Asp	Leu	Tyr	Val
				245					250					255
Arg	Arg	Ile	Pro	Leu	Glu	Asp	Ile	Pro	Glu	Asp	Asp	Asp	Glu	Cys
				260					265					270
Ser	Ala	Trp	Leu	His	Lys	Leu	Tyr	Gln	Glu	Lys	Asp	Ala	Phe	Gln
				275					280					285
Glu	Glu	Tyr	Tyr	Arg	Thr	Gly	Thr	Phe	Pro	Glu	Thr	Pro	Met	Val
				290					295					300
Pro	Pro	Arg	Arg	Pro	Trp	Thr	Leu	Val	Asn	Trp	Leu	Phe	Trp	Ala
				305					310					315
Ser	Leu	Val	Leu	Tyr	Pro	Phe	Phe	Gln	Phe	Leu	Val	Ser	Met	Ile
				320					325					330
Arg	Ser	Gly	Ser	Ser	Leu	Thr	Leu	Ala	Ser	Phe	Ile	Leu	Val	Phe
				335					340					345
Phe	Val	Ala	Ser	Val	Gly	Val	Arg	Trp	Met	Ile	Gly	Val	Thr	Glu
				350					355					360
Ile	Asp	Lys	Gly	Ser	Ala	Tyr	Gly	Asn	Ser	Asp	Ser	Lys	Gln	Lys
				365					370					375

Leu Asn Asp

<210> 157

<211> 1849

<212> DNA

<213> Homo sapiens

<400> 157

ctgaggcggc ggtagcatgg agggggagag tacgtcggcg gtgctctcgg 50

gctttgtgct cggcgcaactc gctttccagc acctcaacac ggactcggac 100  
acggaaggtt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150  
tactgattcc caaatggatg atgttgaagt tgtttatata attgacattc 200  
agaaatatat tccatgctat cagcttttta gcttttataa ttcttcaggc 250  
gaagtaaatag agcaagcact gaagaaaata ttatcaaata tcaaaaagaa 300  
tgtggtaggt tggtaaaaat tccgtcgtca ttcagatcag atcatgacgt 350  
ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccac 400  
gaccttggtt ttctgctatt aacaccaagt ataataacag aaagctgctc 450  
tactcatcga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500  
acaggggtacc tttagtgggt gccaatctgg gcatgtctga acaactgggt 550  
tataaaactg tatcagggtc ctgtatgtcc actggtttta gccgagcagt 600  
acaaacacac agctctaaat tttttgaaga agatggatcc tttaaaggagg 650  
tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700  
atatgcaaaa aagtggaaga cagtgaacaa gcagtagata aactagtaaa 750  
ggatgtaaac agattaaaac gagaaaattga gaaaaggaga ggagcacaga 800  
ttcaggcagc aagagagaag aacatccaaa aagaccctca ggagaacatt 850  
tttctttgtc aggcattacg gacctttttt ccaaattctg aatttcttca 900  
ttcatgtgtt atgtctttaa aaaatagaca tgtttctaaa agtagctgta 950  
actacaacca ccatctcgat gtagtagaca atctgacctt aatggtagaa 1000  
cacactgaca ttcctgaagc tagtccagct agtacaccac aaatcattaa 1050  
gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcggg 1100  
tgtagatata acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150  
caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200  
aaagatgaag gggttttggtg aatattcacg gtctcctaca ttttgatcct 1250  
tttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300  
atttctattg tttttactat gttgagctac ttgcagtaag ttcatttggt 1350  
tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcac 1400  
ttacttcaca aagtactttt tcaaacaatca gatgctttta tttccaaacc 1450  
tttttttcac ctttactaa gttgttgagg ggaaggctta cacagacaca 1500



**000000000000**

<211> 409

<213> Homo sapiens

Met Glu Gly Glu Ser Thr Ser Ala Val Leu Ser Gly Phe Val Leu  
1 5 10 15

Gly Ala Leu Ala Phe Gln His Leu Asn Thr Asp Ser Asp Thr Glu  
20 25 30

Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
35 40 45

Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
50 55 60

Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
65 70 75

Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
80 85 90

Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
95 100 105

Ser Asp Gln Ile Met Thr Phe Arg Glu Arg Leu Leu His Lys Asn  
110 115 120

Leu Gln Glu His Phe Ser Asn Gln Asp Leu Val Phe Leu Leu Leu  
125 130 135

Thr Pro Ser Ile Ile Thr Glu Ser Cys Ser Thr His Arg Leu Glu  
140 145 150

His Ser Leu Tyr Lys Pro Gln Lys Gly Leu Phe His Arg Val Pro  
155 160 165

Leu Val Val Ala Asn Leu Gly Met Ser Glu Gln Leu Gly Tyr Lys  
170 175 180

Thr Val Ser Gly Ser Cys Met Ser Thr Gly Phe Ser Arg Ala Val  
185 190 195

Gln	Thr	His	Ser	Ser	Lys	Phe	Phe	Glu	Glu	Asp	Gly	Ser	Leu	Lys	
				200					205					210	
Glu	Val	His	Lys	Ile	Asn	Glu	Met	Tyr	Ala	Ser	Leu	Gln	Glu	Glu	
				215					220					225	
Leu	Lys	Ser	Ile	Cys	Lys	Lys	Val	Glu	Asp	Ser	Glu	Gln	Ala	Val	
				230					235					240	
Asp	Lys	Leu	Val	Lys	Asp	Val	Asn	Arg	Leu	Lys	Arg	Glu	Ile	Glu	
				245					250					255	
Lys	Arg	Arg	Gly	Ala	Gln	Ile	Gln	Ala	Ala	Arg	Glu	Lys	Asn	Ile	
				260					265					270	
Gln	Lys	Asp	Pro	Gln	Glu	Asn	Ile	Phe	Leu	Cys	Gln	Ala	Leu	Arg	
				275					280					285	
Thr	Phe	Phe	Pro	Asn	Ser	Glu	Phe	Leu	His	Ser	Cys	Val	Met	Ser	
				290					295					300	
Leu	Lys	Asn	Arg	His	Val	Ser	Lys	Ser	Ser	Cys	Asn	Tyr	Asn	His	
				305					310					315	
His	Leu	Asp	Val	Val	Asp	Asn	Leu	Thr	Leu	Met	Val	Glu	His	Thr	
				320					325					330	
Asp	Ile	Pro	Glu	Ala	Ser	Pro	Ala	Ser	Thr	Pro	Gln	Ile	Ile	Lys	
				335					340					345	
His	Lys	Ala	Leu	Asp	Leu	Asp	Asp	Arg	Trp	Gln	Phe	Lys	Arg	Ser	
				350					355					360	
Arg	Leu	Leu	Asp	Thr	Gln	Asp	Lys	Arg	Ser	Lys	Ala	Asn	Thr	Gly	
				365					370					375	
Ser	Ser	Asn	Gln	Asp	Lys	Ala	Ser	Lys	Met	Ser	Ser	Pro	Glu	Thr	
				380					385					390	
Asp	Glu	Glu	Ile	Glu	Lys	Met	Lys	Gly	Phe	Gly	Glu	Tyr	Ser	Arg	
				395					400					405	

Ser Pro Thr Phe

<210> 159  
 <211> 2651  
 <212> DNA  
 <213> Homo sapiens

<400> 159  
 ggcacagccg cgcggcggag ggcagagtca gccgagccga gtccagccgg 50  
 acgagcggac cagcgcaggg cagcccaagc agcgcgcagc gaacgcccgc 100  
 cgccgcccac accctctgcg gtccccgcgg cgctgccac ccttcctcc 150  
 ttccccgcgt cccgcctcg ccggccagtc agcttgccgg gttegetgcc 200

**SECRET**

ctgggttactg atgtcaagga gaaactgaaa caggccaaga aattctggtc 1700  
ctcccttccg agcaacgttt gcaacgatga gaggatggct gcaggaaacg 1750  
gcaatgagga tgactgttgg aatgggaaaag gcaaaaagcag gtacctgttt 1800  
gcagtgcacag gaaatggatt agccaaccag ggcaacaacc cagaggcca 1850  
ggttgacacc agcaaaccag acatactgat ccttcgtcaa atcatggctc 1900  
ttcgagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
gacttctttg atatcagtga tgaaagtagt ggagaaggaa gtggaagtgg 2000  
ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050  
atgtgtggaa gagtgccaat gagaaagccg acagtgtctg tgtccgtcct 2100  
ggggcacagg cctacctcct cactgtcttc tgcattctgt tcttggttat 2150  
gcagagagag tggagataat tctcaaaactc tgagaaaaag tgttcatcaa 2200  
aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250  
tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300  
tttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaagg 2350  
actgtgcatt gagttggttc ctgctcccc aaaccatgtt aaacgtggct 2400  
aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450  
ctctattatt tgtttgatg ttttttctc atttcgtttg tgggtttttt 2500  
tttccaactg tgatctcgcc ttgtttctta caagcaaacc agggccctt 2550  
cttggcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600  
agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650

c 2651

<210> 160

<211> 556

<212> PRT

<213> Homo sapiens

<400> 160

Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
1 5 10 15

Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
20 25 30

Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn  
35 40 45

Asp Ala Pro Leu His Glu Ile Asn Gly Asp His Leu Lys Ile Cys

				50					55					60
Pro	Gln	Gly	Ser	Thr 65	Cys	Cys	Ser	Gln	Glu 70	Met	Glu	Glu	Lys	Tyr 75
Ser	Leu	Gln	Ser	Lys 80	Asp	Asp	Phe	Lys	Ser 85	Val	Val	Ser	Glu	Gln 90
Cys	Asn	His	Leu	Gln 95	Ala	Val	Phe	Ala	Ser 100	Arg	Tyr	Lys	Lys	Phe 105
Asp	Glu	Phe	Phe	Lys 110	Glu	Leu	Leu	Glu	Asn 115	Ala	Glu	Lys	Ser	Leu 120
Asn	Asp	Met	Phe	Val 125	Lys	Thr	Tyr	Gly	His 130	Leu	Tyr	Met	Gln	Asn 135
Ser	Glu	Leu	Phe	Lys 140	Asp	Leu	Phe	Val	Glu 145	Leu	Lys	Arg	Tyr	Tyr 150
Val	Val	Gly	Asn	Val 155	Asn	Leu	Glu	Glu	Met 160	Leu	Asn	Asp	Phe	Trp 165
Ala	Arg	Leu	Leu	Glu 170	Arg	Met	Phe	Arg	Leu 175	Val	Asn	Ser	Gln	Tyr 180
His	Phe	Thr	Asp	Glu 185	Tyr	Leu	Glu	Cys	Val 190	Ser	Lys	Tyr	Thr	Glu 195
Gln	Leu	Lys	Pro	Phe 200	Gly	Asp	Val	Pro	Arg 205	Lys	Leu	Lys	Leu	Gln 210
Val	Thr	Arg	Ala	Phe 215	Val	Ala	Ala	Arg	Thr 220	Phe	Ala	Gln	Gly	Leu 225
Ala	Val	Ala	Gly	Asp 230	Val	Val	Ser	Lys	Val 235	Ser	Val	Val	Asn	Pro 240
Thr	Ala	Gln	Cys	Thr 245	His	Ala	Leu	Leu	Lys 250	Met	Ile	Tyr	Cys	Ser 255
His	Cys	Arg	Gly	Leu 260	Val	Thr	Val	Lys	Pro 265	Cys	Tyr	Asn	Tyr	Cys 270
Ser	Asn	Ile	Met	Arg 275	Gly	Cys	Leu	Ala	Asn 280	Gln	Gly	Asp	Leu	Asp 285
Phe	Glu	Trp	Asn	Asn 290	Phe	Ile	Asp	Ala	Met 295	Leu	Met	Val	Ala	Glu 300
Arg	Leu	Glu	Gly	Pro 305	Phe	Asn	Ile	Glu	Ser 310	Val	Met	Asp	Pro	Ile 315
Asp	Val	Lys	Ile	Ser 320	Asp	Ala	Ile	Met	Asn 325	Met	Gln	Asp	Asn	Ser 330
Val	Gln	Val	Ser	Gln 335	Lys	Val	Phe	Gln	Gly 340	Cys	Gly	Pro	Pro	Lys 345

Pro	Leu	Pro	Ala	Gly	Arg	Ile	Ser	Arg	Ser	Ile	Ser	Glu	Ser	Ala	350	355	360
Phe	Ser	Ala	Arg	Phe	Arg	Pro	His	His	Pro	Glu	Glu	Arg	Pro	Thr	365	370	375
Thr	Ala	Ala	Gly	Thr	Ser	Leu	Asp	Arg	Leu	Val	Thr	Asp	Val	Lys	380	385	390
Glu	Lys	Leu	Lys	Gln	Ala	Lys	Lys	Phe	Trp	Ser	Ser	Leu	Pro	Ser	395	400	405
Asn	Val	Cys	Asn	Asp	Glu	Arg	Met	Ala	Ala	Gly	Asn	Gly	Asn	Glu	410	415	420
Asp	Asp	Cys	Trp	Asn	Gly	Lys	Gly	Lys	Ser	Arg	Tyr	Leu	Phe	Ala	425	430	435
Val	Thr	Gly	Asn	Gly	Leu	Ala	Asn	Gln	Gly	Asn	Asn	Pro	Glu	Val	440	445	450
Gln	Val	Asp	Thr	Ser	Lys	Pro	Asp	Ile	Leu	Ile	Leu	Arg	Gln	Ile	455	460	465
Met	Ala	Leu	Arg	Val	Met	Thr	Ser	Lys	Met	Lys	Asn	Ala	Tyr	Asn	470	475	480
Gly	Asn	Asp	Val	Asp	Phe	Phe	Asp	Ile	Ser	Asp	Glu	Ser	Ser	Gly	485	490	495
Glu	Gly	Ser	Gly	Ser	Gly	Cys	Glu	Tyr	Gln	Gln	Cys	Pro	Ser	Glu	500	505	510
Phe	Asp	Tyr	Asn	Ala	Thr	Asp	His	Ala	Gly	Lys	Ser	Ala	Asn	Glu	515	520	525
Lys	Ala	Asp	Ser	Ala	Gly	Val	Arg	Pro	Gly	Ala	Gln	Ala	Tyr	Leu	530	535	540
Leu	Thr	Val	Phe	Cys	Ile	Leu	Phe	Leu	Val	Met	Gln	Arg	Glu	Trp	545	550	555

Arg

<210> 161

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 161

ctccgtggta aacccacag ccc 23

<210> 162

<211> 24



aaatgcaatc aggaaaagtag caaacagaag tcaataaata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met  
1 5 10 15  
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg  
20 25 30  
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu  
35 40 45  
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro  
50 55 60  
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys  
65 70 75  
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln  
80 85 90  
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln  
95 100 105  
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu  
110 115

<210> 166  
<211> 551  
<212> DNA  
<213> Homo sapiens

<400> 166  
aatggctgtc ttagtacttc gcctgacagt tgtcctggga ctgcttgtct 50  
tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
ccagacgact cgggcaaaga cccaaagcca gacttcccca aattcctaag 150  
cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
cattcatcaa agtgacatcc tcaggacaca cccatgtggc tcttgacaaa 300  
tccaagagca gccaaatcct gcttttccag tttgggtcca caagtcctcc 350  
aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
tggtttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450



**000000000000**

```

<400> 167
Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu
  1                      5                      10                      15

Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro
                20                      25                      30

Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe
                35                      40                      45

Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala
                50                      55                      60

Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met
                65                      70                      75

Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys
                80                      85

```

<400>	168
ggacgccagc gcctgcagag gctgagcagg gaaaaagcca gtgccccagc	50
ggaagcacag ctccagagctg gtctgcccatt gacatccttg tcccactcct	100
gcagctgctg gtgctgttcc ttaccctgcc cctgcacctc atggctctgc	150
tgggctgctg gcagccccctg tgcaaaagct acttccccta cctgatggcc	200
gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct	250
cttcagccag ataaaagggc ttacaggagc ctccgggaaa gtggccctac	300
tggagctggg ctgcggaacc ggagccaact ttcatgttta ccacccgggc	350
tgcagggtca cctgcctaga cccaaatccc cactttgaga agttcctgac	400
aaagagcatg gctgagaaca ggcacctcca atatgagcgg ttttgtggtg	450
ctcctggaga ggacatgaga cagctggctg atggctccat ggatgtggtg	500
gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca	550

ggaggtccgg agagtactga gaccgggagg tgtgctcttt ttctgggagc 600  
atgtggcaga accatatgga agctgggcct tcatgtggca gcaagttttc 650  
gagcccacct ggaaacacat tggggatggc tgctgcctca ccagagagac 700  
ctggaaggat cttgagaacg cccagttctc cgaaatccaa atggaacgac 750  
agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800  
gctgtcaaac aatctttccc aagctccaag gcactcattt gtccttccc 850  
cagcctccaa ttagaacaag ccaccacca gcctatctat cttccactga 900  
gagggaccta gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
ctctctcccc aacctctgcc agggcaatct ctaacttcaa tcccgcttc 1000  
gacagtga aaagctctact tctacgtga cccagggagg aaacactagg 1050  
accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100  
gcctcccaat gttgtccctt tccttcgttc ccatggtaaa gtcctctctg 1150  
ctttctctct gaggtacac ccatgcgtct ctaggaactg gtcacaaaag 1200  
tcatggtgcc tgcattccctg ccaagcccc ctgacctct ctccccacta 1250  
ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
atgccagagc aagactcaaa gaggcagagg ttttgttctc aaatattttt 1350  
taataaatag acgaaaccac g 1371

<210> 169  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 169  
Met Asp Ile Leu Val Pro Leu Leu Gln Leu Leu Val Leu Leu Leu  
1 5 10 15  
Thr Leu Pro Leu His Leu Met Ala Leu Leu Gly Cys Trp Gln Pro  
20 25 30  
Leu Cys Lys Ser Tyr Phe Pro Tyr Leu Met Ala Val Leu Thr Pro  
35 40 45  
Lys Ser Asn Arg Lys Met Glu Ser Lys Lys Arg Glu Leu Phe Ser  
50 55 60  
Gln Ile Lys Gly Leu Thr Gly Ala Ser Gly Lys Val Ala Leu Leu  
65 70 75  
Glu Leu Gly Cys Gly Thr Gly Ala Asn Phe Gln Phe Tyr Pro Pro  
80 85 90

Gly Cys Arg Val Thr Cys Leu Asp Pro Asn Pro His Phe Glu Lys  
 95 100 105  
 Phe Leu Thr Lys Ser Met Ala Glu Asn Arg His Leu Gln Tyr Glu  
 110 115 120  
 Arg Phe Val Val Ala Pro Gly Glu Asp Met Arg Gln Leu Ala Asp  
 125 130 135  
 Gly Ser Met Asp Val Val Val Cys Thr Leu Val Leu Cys Ser Val  
 140 145 150  
 Gln Ser Pro Arg Lys Val Leu Gln Glu Val Arg Arg Val Leu Arg  
 155 160 165  
 Pro Gly Gly Val Leu Phe Phe Trp Glu His Val Ala Glu Pro Tyr  
 170 175 180  
 Gly Ser Trp Ala Phe Met Trp Gln Gln Val Phe Glu Pro Thr Trp  
 185 190 195  
 Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr Trp Lys  
 200 205 210  
 Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg Gln  
 215 220 225  
 Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly  
 230 235 240  
 Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys  
 245 250 255  
 Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile  
 260 265 270  
 Tyr Leu Pro Leu Arg Gly Thr  
 275

<210> 170  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 170  
 gtgggatttta tttgagtgc agatcgtttt ctcagtgggtg gtggaagttg 50  
 cctcatcgca ggcagatggt ggggctttgt ccgaacagct cccctctgcc 100  
 agcttctgta gataagggtt aaaaactaat atttatatga cagaagaaaa 150  
 agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
 ctcttcttac tggttttgca ccataacttc ctcagcttga gcagtttggt 250  
 aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
 ttgtcccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350

cctgtggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
 tataaacagc attcagcaca acactcgctc caatgtgatt ttctacattg 450  
 ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
 tccctgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
 ggaaggaaaa gtaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
 taacctttgc aaggttctac ttgccaattc tggttcccag cgcaaagaag 650  
 gccatataca tggatgatga tgtaattgtg caaggtgata ttcttgccct 700  
 ttacaataca gcaactgaagc caggacatgc agctgcattt tcagaagatt 750  
 gtgattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
 aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
 catgaaagcc agcacttgct catttaatcc tggagttttt gttgcaaacc 900  
 tgacggaatg gaaacgacag aatataacta accaactgga aaaatggatg 950  
 aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggtagcat 1000  
 cacaacacct cctctgctta tcgtatttta tcaacagcac tctaccatcg 1050  
 atcctatgtg gaatgtccgc caccttggtt ccagtgtctg aaaacgatat 1100  
 tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150  
 gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatggg 1200  
 atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
 atctcaaaca taaagtgaag cagaatttga actgtaagca agcatttctc 1300  
 aggaagtcct ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
 aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
 atgacaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
 ataaatatgt ctccatctgc cttaccaagt gttttcttac tacaatgctg 1500  
 aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
 taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
 taaataaaac ttacattttt c 1621

<210> 171  
 <211> 371  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 171

Met	Ser	Phe	Arg	Lys	Val	Asn	Ile	Ile	Ile	Leu	Val	Leu	Ala	Val	1	5	10	15
Ala	Leu	Phe	Leu	Leu	Val	Leu	His	His	Asn	Phe	Leu	Ser	Leu	Ser	20	25	30	
Ser	Leu	Leu	Arg	Asn	Glu	Val	Thr	Asp	Ser	Gly	Ile	Val	Gly	Pro	35	40	45	
Gln	Pro	Ile	Asp	Phe	Val	Pro	Asn	Ala	Leu	Arg	His	Ala	Val	Asp	50	55	60	
Gly	Arg	Gln	Glu	Glu	Ile	Pro	Val	Val	Ile	Ala	Ala	Ser	Glu	Asp	65	70	75	
Arg	Leu	Gly	Gly	Ala	Ile	Ala	Ala	Ile	Asn	Ser	Ile	Gln	His	Asn	80	85	90	
Thr	Arg	Ser	Asn	Val	Ile	Phe	Tyr	Ile	Val	Thr	Leu	Asn	Asn	Thr	95	100	105	
Ala	Asp	His	Leu	Arg	Ser	Trp	Leu	Asn	Ser	Asp	Ser	Leu	Lys	Ser	110	115	120	
Ile	Arg	Tyr	Lys	Ile	Val	Asn	Phe	Asp	Pro	Lys	Leu	Leu	Glu	Gly	125	130	135	
Lys	Val	Lys	Glu	Asp	Pro	Asp	Gln	Gly	Glu	Ser	Met	Lys	Pro	Leu	140	145	150	
Thr	Phe	Ala	Arg	Phe	Tyr	Leu	Pro	Ile	Leu	Val	Pro	Ser	Ala	Lys	155	160	165	
Lys	Ala	Ile	Tyr	Met	Asp	Asp	Asp	Val	Ile	Val	Gln	Gly	Asp	Ile	170	175	180	
Leu	Ala	Leu	Tyr	Asn	Thr	Ala	Leu	Lys	Pro	Gly	His	Ala	Ala	Ala	185	190	195	
Phe	Ser	Glu	Asp	Cys	Asp	Ser	Ala	Ser	Thr	Lys	Val	Val	Ile	Arg	200	205	210	
Gly	Ala	Gly	Asn	Gln	Tyr	Asn	Tyr	Ile	Gly	Tyr	Leu	Asp	Tyr	Lys	215	220	225	
Lys	Glu	Arg	Ile	Arg	Lys	Leu	Ser	Met	Lys	Ala	Ser	Thr	Cys	Ser	230	235	240	
Phe	Asn	Pro	Gly	Val	Phe	Val	Ala	Asn	Leu	Thr	Glu	Trp	Lys	Arg	245	250	255	
Gln	Asn	Ile	Thr	Asn	Gln	Leu	Glu	Lys	Trp	Met	Lys	Leu	Asn	Val	260	265	270	
Glu	Glu	Gly	Leu	Tyr	Ser	Arg	Thr	Leu	Ala	Gly	Ser	Ile	Thr	Thr	275	280	285	
Pro	Pro	Leu	Leu	Ile	Val	Phe	Tyr	Gln	Gln	His	Ser	Thr	Ile	Asp				

				290					295					300	
Pro	Met	Trp	Asn	Val	Arg	His	Leu	Gly	Ser	Ser	Ala	Gly	Lys	Arg	
				305					310					315	
Tyr	Ser	Pro	Gln	Phe	Val	Lys	Ala	Ala	Lys	Leu	Leu	His	Trp	Asn	
				320					325					330	
Gly	His	Leu	Lys	Pro	Trp	Gly	Arg	Thr	Ala	Ser	Tyr	Thr	Asp	Val	
				335					340					345	
Trp	Glu	Lys	Trp	Tyr	Ile	Pro	Asp	Pro	Thr	Gly	Lys	Phe	Asn	Leu	
				350					355					360	
Ile	Arg	Arg	Tyr	Thr	Glu	Ile	Ser	Asn	Ile	Lys					
				365					370						

```
<210> 172
<211> 585
<212> DNA
<213> Homo sapiens
```

cgacgctcta gcggttaccg ctgcgggctg gctgggcgta gtggggctgc 50  
gcggctgcca cggagctaga gggcaagtgt gctcggccca gcgtgcaggg 100  
aacgcgggcy gccagacaac gggctgggct ccggggcctg cggcgcgggc 150  
gctgagctgg cagggcggtt cggggcgcggt gctgcatccg catctcctcc 200  
atcgctgca gtaagggcgg ccgcggcgag cctttgaggg gaacgacttg 250  
tcggagccct aaccaggggt gtctctgagc ctgggtgggat ccccgagcgg 300  
tcacatcact ttccgatcac ttcaaagtgg ttaaaaacta atatttatat 350  
gacagaagaa aaagatgtca ttccgtaaag taaacatcat catcttggtc 400  
ctgggctggt gctctcttct tactggtttt gcaccataac ttcctcagct 450  
tgaggcagtt tgttaaggaa tgaggttaca gattcaggaa ttgtagggcc 500  
tcaacctata ggactttgtc ccaaagtctc tccgacatgc agtagatggg 550  
agacaagagg agattcctgt ggtcatcgct gcatctgaag acaggcttgg 600  
gggggccatt gcagctataa acagcattca gcacaacact cgctccaatg 650  
tgattttcta cattgttact ctcaacaata cagcagacca tctccggtcc 700  
tgggctcaac agtgattccc tgaaaagcat cagatacaaa attgtcaatt 750  
ttgaccctaa acttttgga ggaagagtaa aggaggatcc tgaccagggg 800  
gaatccatga aacctttaac ctttgcaagg ttctacttgc caattctggg 850  
ttcccagcgc aaagaaggcc atatacatgg atgatgatgt aattgtgcaa 900  
ggatgatattc ttgcccttta caatacagca ctgaagccag gacatgcagc 950  
tgcattttca gaagattgtg attcagctc tactaaagtt gtcacccgtg 1000  
gagcaggaaa ccagtacaat tacattggct atcttgacta taaaaaggaa 1050  
agaattcgta agctttccat gaaagccagc acttgctcat ttaatcctgg 1100  
agtttttgtt gcaaacctga cggaatggaa acgacagaat ataactaacc 1150  
aactggaaaa atggatgaaa ctcaatgtag aagagggact gtatagcaga 1200  
accctggctg gtagcatcac aacacctcct ctgcttatcg tattttatca 1250  
acagcactct accatcgatc ctatgtggaa tgtccgccac cttgggtcca 1300  
gtgctggaaa acgatattca cctcagtttg taaaggctgc caagttactc 1350  
cattggaatg gacatttgaa gccatgggga aggactgctt catatactga 1400  
tgtttgggga aaaatggtat attccagacc caacaggcaa attcaaccta 1450

atccgaagat ataccgagat ctcaaacata aagtgaaca gaatttgaac 1500  
 tgtaagcaag catttctcag gaagtcctgg aagatagcat gcgtgggaag 1550  
 taacagttgc taggcttcaa tgcctatcgg tagcaagcca tggaaaaaga 1600  
 tgtgtcagct aggtaaagat gacaaaactgc cctgtctggc agtcagcttc 1650  
 ccagacagac tatagactat aaatatgtct ccatctgcct taccaagtgt 1700  
 tttcttacta caatgctgaa tgactggaaa gaagaactga tatggctagt 1750  
 tcagctagct ggtacagata attcaaaaact gctgttggtt ttaattttgt 1800  
 aacctgtggc ctgatctgta aataaaaactt acatttttca ataggtaaaa 1850  
 aaaaaaaaaa aaaaaa 1866

<210> 174  
 <211> 823  
 <212> DNA  
 <213> Homo sapiens

<400> 174  
 ctgcaggtag acatctccac tgcccaggaa tcactgagcg tgcagacagc 50  
 acagcctcct ctgaaggccg gccataccag agtcctgcct cggcatgggc 100  
 ctcaccattg aggcagctcc actgtctgtg ctggctctgag ggtgctgcct 150  
 gtcatggggg cagccatctc ccagggggcc ctcatcgcca tcgtctgcaa 200  
 cggctctgtg ggcttcttgc tgctgctgct ctgggtcatc ctctgctggg 250  
 cctgccattc tcgtctgccc acgttgactc tctctctgaa tccagtccca 300  
 actccagccc tggcccctgt cctgagaagg cccaccacc ccagaagccc 350  
 agccatgaag gcagctacct gctgcagccc tgaaggcccc tggcctagcc 400  
 tggagcccag gacctaagtc cacctcacct agagcctgga attaggatcc 450  
 cagagttcag ccagcctggg gtccagaact caagagtccg cctgcttgga 500  
 gctggaccca gcggcccaga gtctagccag cttggctcca ataggagctc 550  
 agtggcccta aggagatggg cctgggggtgg gggcttatga gttggtgcta 600  
 gagccagggc catctggact atgctccatc ccaagggccca agggtcaggg 650  
 gccgggtcca ctctttccct aggctgagca cctctaggcc ctctaggttg 700  
 gggaagcaaa ctggaacca tggcaataat aggaggggtgt ccaggctggg 750  
 cccctccctt ggtcctccca gtgtttgctg gataataaat ggaactatgg 800  
 ctctaaaaaa aaaaaaaaaa aaa 823



<210> 175  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 175  
 Met Gly Ala Ala Ile Ser Gln Gly Ala Leu Ile Ala Ile Val Cys  
           1                  5                  10                  15  
 Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
                           20                  25                  30  
 Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
                           35                  40                  45  
 Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
                           50                  55                  60  
 His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
                           65                  70                  75  
 Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
                           80                  85

<210> 176  
 <211> 1660  
 <212> DNA  
 <213> Homo sapiens

<400> 176  
 gtttgaattc cttcaactat acccacagtc caaaagcaga ctactgtgt 50  
 cccaggctac cagttcctcc aagcaagtca tttcccttat ttaaccgatg 100  
 tgtccctcaa acacctgagt gctactccct atttgcattt gttttgataa 150  
 atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200  
 gatacaatcc ttggcctgtg taccctcgca ttagccttgt ctttggccat 250  
 gatgtttacc ttcagattca tcaccaccct tctggttcac attttcattt 300  
 cattggttat tttgggattg ttgtttgtct gcggtgtttt atggtggctg 350  
 tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400  
 aaatatgaag tgcgtgctgg gggtttgctat cgtatccaca ggcattcacg 450  
 cagtgtgctc cgtcttgatt tttgttctca gaaagagaat aaaattgaca 500  
 gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttcct 550  
 gctgttccag ccactgtgga catttgccat cctcattttt ttctgggtcc 600  
 tctgggtggc tgtgctgctg agcctgggaa ctgcaggagc tgcccagggt 650  
 atggaaggcg gccaaagtga atataagccc ctttcgggca ttcggtacat 700

gtggtcgtac catttaattg gcctcatctg gactagtga ttcacccctg 750  
 cgtgccagca aatgactata gctggggcag tggttacttg ttatttcaac 800  
 agaagtaaaa atgatcctcc tgatcatccc atcctttcgt ctctctccat 850  
 tctcttcttc taccatcaag gaaccgttgt gaaaggggtca tttttaatct 900  
 ctgtggtgag gattccgaga atcattgtca tgtacatgca aaacgcactg 950  
 aaagaacagc agcatgggtgc attgtccagg tacctgttcc gatgctgcta 1000  
 ctgctgtttc tgggtgtcttg acaaatacct gctccatctc aaccagaatg 1050  
 catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100  
 gatgcattca aaatcttgtc caagaactca agtcacttta catctattaa 1150  
 ctgcttttga gacttcataa tttttctagg aaagggtgta gtgggtgtgtt 1200  
 tcaactgtttt tggaggactc atggctttta actacaatcg ggcattccag 1250  
 gtgtgggcag tccctctgtt attggtagct ttttttgcct acttagtagc 1300  
 ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350  
 gttttgctgt tgatctggaa acaaatagat gatcgtcaga aaagccctac 1400  
 tttatggatc aagaatttct gagtttcgta aaaaggagca acaaattaaa 1450  
 caatgcaagg gcacagcagg acaagcactc attaaggaat gaggagggaa 1500  
 cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550  
 ggaaaacatt tccttctaag agccatttac agaatagaag atgagaccac 1600  
 tagagaaaag ttagtgaatt tttttttaa agacctaata aaccctattc 1650  
 ttcctcaaaa 1660

<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
 Met Ser Gly Arg Asp Thr Ile Leu Gly Leu Cys Ile Leu Ala Leu  
 1 5 10 15  
 Ala Leu Ser Leu Ala Met Met Phe Thr Phe Arg Phe Ile Thr Thr  
 20 25 30  
 Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu  
 35 40 45  
 Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn  
 50 55 60

Asp	Leu	Ser	Ile	Glu	Leu	Asp	Thr	Glu	Arg	Glu	Asn	Met	Lys	Cys	
				65					70					75	
Val	Leu	Gly	Phe	Ala	Ile	Val	Ser	Thr	Gly	Ile	Thr	Ala	Val	Leu	
				80					85					90	
Leu	Val	Leu	Ile	Phe	Val	Leu	Arg	Lys	Arg	Ile	Lys	Leu	Thr	Val	
				95					100					105	
Glu	Leu	Phe	Gln	Ile	Thr	Asn	Lys	Ala	Ile	Ser	Ser	Ala	Pro	Phe	
				110					115					120	
Leu	Leu	Phe	Gln	Pro	Leu	Trp	Thr	Phe	Ala	Ile	Leu	Ile	Phe	Phe	
				125					130					135	
Trp	Val	Leu	Trp	Val	Ala	Val	Leu	Leu	Ser	Leu	Gly	Thr	Ala	Gly	
				140					145					150	
Ala	Ala	Gln	Val	Met	Glu	Gly	Gly	Gln	Val	Glu	Tyr	Lys	Pro	Leu	
				155					160					165	
Ser	Gly	Ile	Arg	Tyr	Met	Trp	Ser	Tyr	His	Leu	Ile	Gly	Leu	Ile	
				170					175					180	
Trp	Thr	Ser	Glu	Phe	Ile	Leu	Ala	Cys	Gln	Gln	Met	Thr	Ile	Ala	
				185					190					195	
Gly	Ala	Val	Val	Thr	Cys	Tyr	Phe	Asn	Arg	Ser	Lys	Asn	Asp	Pro	
				200					205					210	
Pro	Asp	His	Pro	Ile	Leu	Ser	Ser	Leu	Ser	Ile	Leu	Phe	Phe	Tyr	
				215					220					225	
His	Gln	Gly	Thr	Val	Val	Lys	Gly	Ser	Phe	Leu	Ile	Ser	Val	Val	
				230					235					240	
Arg	Ile	Pro	Arg	Ile	Ile	Val	Met	Tyr	Met	Gln	Asn	Ala	Leu	Lys	
				245					250					255	
Glu	Gln	Gln	His	Gly	Ala	Leu	Ser	Arg	Tyr	Leu	Phe	Arg	Cys	Cys	
				260					265					270	
Tyr	Cys	Cys	Phe	Trp	Cys	Leu	Asp	Lys	Tyr	Leu	Leu	His	Leu	Asn	
				275					280					285	
Gln	Asn	Ala	Tyr	Thr	Thr	Thr	Ala	Ile	Asn	Gly	Thr	Asp	Phe	Cys	
				290					295					300	
Thr	Ser	Ala	Lys	Asp	Ala	Phe	Lys	Ile	Leu	Ser	Lys	Asn	Ser	Ser	
				305					310					315	
His	Phe	Thr	Ser	Ile	Asn	Cys	Phe	Gly	Asp	Phe	Ile	Ile	Phe	Leu	
				320					325					330	
Gly	Lys	Val	Leu	Val	Val	Cys	Phe	Thr	Val	Phe	Gly	Gly	Leu	Met	
				335					340					345	
Ala	Phe	Asn	Tyr	Asn	Arg	Ala	Phe	Gln	Val	Trp	Ala	Val	Pro	Leu	

350	355	360
Leu Leu Val Ala Phe Phe Ala Tyr Leu Val Ala His Ser Phe Leu		
365	370	375
Ser Val Phe Glu Thr Val Leu Asp Ala Leu Phe Leu Cys Phe Ala		
380	385	390
Val Asp Leu Glu Thr Asn Asp Gly Ser Ser Glu Lys Pro Tyr Phe		
395	400	405
Met Asp Gln Glu Phe Leu Ser Phe Val Lys Arg Ser Asn Lys Leu		
410	415	420
Asn Asn Ala Arg Ala Gln Gln Asp Lys His Ser Leu Arg Asn Glu		
425	430	435
Glu Gly Thr Glu Leu Gln Ala Ile Val Arg		
440	445	

<210> 178  
 <211> 2773  
 <212> DNA  
 <213> Homo sapiens

<400> 178  
 gttcgattag ctcctctgag aagaagagaa aagggttcttg gacctctccc 50  
 tgtttcttcc ttagaataat ttgtatggga tttgtgatgc aggaaagcct 100  
 aagggaaaaa gaatattcat tctgtgtggt gaaaattttt tgaaaaaaa 150  
 attgccttct tcaaacaagg gtgtcattct gatatttatg aggactgttg 200  
 ttctcactat gaaggcatct gttattgaaa tggtccttgt tttgctggtg 250  
 actggagtac attcaaaca agaaacggca aagaagatta aaaggcccaa 300  
 gttcactgtg cctcagatca actgcgatgt caaagccgga aagatcatcg 350  
 atcctgagtt cattgtgaaa tgtccagcag gatgccaaga ccccaaatac 400  
 catgtttatg gcactgacgt gtatgcatcc tactccagtg tgtgtggcgc 450  
 tgccgtacac agtgggtgtgc ttgataattc aggagggaaa atacttggtc 500  
 ggaaggttgc tggacagtct gggtacaaag ggagttattc caacggtgtc 550  
 caatcgttat ccctaccacg atggagagaa tcctttatcg tcttagaaag 600  
 taaacccaaa aagggtgtaa cctaccatc agctcttaca tactcatcat 650  
 cgaaaagtcc agctgcccaa gcaggtgaga ccacaaaagc ctatcagagg 700  
 ccacctattc cagggacaac tgcacagccg gtcactctga tgcagcttct 750  
 ggctgtcact gtagctgtgg ccacccccac caccttgcca aggccatccc 800

cttctgctgc ttctaccacc agcatcccca gaccacaatc agtgggccac 850  
aggagccagg agatggatct ctggtccact gccacctaca caagcagcca 900  
aaacaggccc agagctgata caggatatcca aaggcaagat ccttcaggag 950  
ctgccttcca gaaacctgtt ggagcggatg tcagcctggg acttggtcca 1000  
aaagaagaat tgagcacaca gtcttttgag ccagtatccc tgggagatcc 1050  
aaactgcaaa attgacttgt cgtttttaat tgatgggagc accagcattg 1100  
gcaaacggcg attccgaatc cagaagcagc tcctggctga tgttgcccaa 1150  
gctcttgaca ttggccctgc cgggtccactg atgggtgttg tccagtatgg 1200  
agacaaccct gctactcact ttaacctcaa gacacacacg aattctcgag 1250  
atctgaagac agccatagag aaaattactc agagaggagg actttctaata 1300  
gtaggtcggg ccatctcctt tgtgaccaag aacttctttt ccaaagccaa 1350  
tggaacaga agcggggctc ccaatgtggt ggtggtgatg gtggatggct 1400  
ggccacgga caaagtggag gaggttcaa gacttgcgag agagtcagga 1450  
atcaacattt tcttcatac cattgaaggt gctgctgaaa atgagaagca 1500  
gtagtggtg gagcccaact ttgcaaaca ggccgtgtgc agaacaacg 1550  
gcttctactc gctccacgtg cagagctggt ttggcctcca caagaccctg 1600  
cagcctctgg tgaagcgggt ctgcgacact gaccgcctgg cctgcagcaa 1650  
gacctgcttg aactcggctg acattggctt cgtcatcgac ggctccagca 1700  
gtgtggggac gggcaacttc cgcacgtcc tccagtttgt gaccaacctc 1750  
accaaagagt ttgagatttc cgacacggac acgcgcatcg gggccgtgca 1800  
gtacacctac gaacagcggc tggagtttgg gttcgacaag tacagcagca 1850  
agcctgacat cctcaacgcc atcaagaggg tgggctactg gagtgggtggc 1900  
accagcacgg gggctgcat caacttcgcc ctggagcagc tcttcaagaa 1950  
gtccaagccc aacaagagga agttaatgat cctcatcacc gacgggaggt 2000  
cctacgacga cgtccggatc ccagccatgg ctgccatct gaagggagtg 2050  
atcacctatg cgataggcgt tgcttgggt gcccaagagg agctagaagt 2100  
cattgccact caccgcgcca gagaccactc cttctttgtg gacgagtttg 2150  
acaacctcca tcagtatgtc cccaggatca tccagaacat ttgtacagag 2200  
ttcaactcac agcctcgga ctgaattcag agcaggcaga gcaccagcaa 2250

**THE UNIVERSITY OF CHICAGO**

<211> 678

<213> Homo sapiens

Met Arg Thr Val Val Leu Thr Met Lys Ala Ser Val Ile Glu Met  
1 5 10 15

Phe Leu Val Leu Leu Val Thr Gly Val His Ser Asn Lys Glu Thr  
20 25 30

Ala Lys Lys Ile Lys Arg Pro Lys Phe Thr Val Pro Gln Ile Asn  
35 40 45

Cys Asp Val Lys Ala Gly Lys Ile Ile Asp Pro Glu Phe Ile Val  
50 55 60

Lys Cys Pro Ala Gly Cys Gln Asp Pro Lys Tyr His Val Tyr Gly  
65 70 75

Thr Asp Val Tyr Ala Ser Tyr Ser Ser Val Cys Gly Ala Ala Val  
80 85 90

His Ser Gly Val Leu Asp Asn Ser Gly Gly Lys Ile Leu Val Arg  
95 100 105

Lys Val Ala Gly Gln Ser Gly Tyr Lys Gly Ser Tyr Ser Asn Gly  
110 115 120

Val Gln Ser Leu Ser Leu Pro Arg Trp Arg Glu Ser Phe Ile Val  
125 130 135

Leu Glu Ser Lys Pro Lys Lys Gly Val Thr Tyr Pro Ser Ala Leu  
140 145 150

Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr	
				155					160					165	
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln	
				170					175					180	
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala	
				185					190					195	
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr	
				200					205					210	
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu	
				215					220					225	
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg	
				230					235					240	
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala	
				245					250					255	
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val	
				260					265					270	
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu	
				275					280					285	
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly	
				290					295					300	
Ser	Thr	Ser	Ile	Gly	Lys	Arg	Arg	Phe	Arg	Ile	Gln	Lys	Gln	Leu	
				305					310					315	
Leu	Ala	Asp	Val	Ala	Gln	Ala	Leu	Asp	Ile	Gly	Pro	Ala	Gly	Pro	
				320					325					330	
Leu	Met	Gly	Val	Val	Gln	Tyr	Gly	Asp	Asn	Pro	Ala	Thr	His	Phe	
				335					340					345	
Asn	Leu	Lys	Thr	His	Thr	Asn	Ser	Arg	Asp	Leu	Lys	Thr	Ala	Ile	
				350					355					360	
Glu	Lys	Ile	Thr	Gln	Arg	Gly	Gly	Leu	Ser	Asn	Val	Gly	Arg	Ala	
				365					370					375	
Ile	Ser	Phe	Val	Thr	Lys	Asn	Phe	Phe	Ser	Lys	Ala	Asn	Gly	Asn	
				380					385					390	
Arg	Ser	Gly	Ala	Pro	Asn	Val	Val	Val	Val	Met	Val	Asp	Gly	Trp	
				395					400					405	
Pro	Thr	Asp	Lys	Val	Glu	Glu	Ala	Ser	Arg	Leu	Ala	Arg	Glu	Ser	
				410					415					420	
Gly	Ile	Asn	Ile	Phe	Phe	Ile	Thr	Ile	Glu	Gly	Ala	Ala	Glu	Asn	
				425					430					435	
Glu	Lys	Gln	Tyr	Val	Val	Glu	Pro	Asn	Phe	Ala	Asn	Lys	Ala	Val	

1092200.266T4660

	440		445		450
Cys Arg Thr Asn Gly Phe Tyr Ser Leu His Val Gln Ser Trp Phe	455		460		465
Gly Leu His Lys Thr Leu Gln Pro Leu Val Lys Arg Val Cys Asp	470		475		480
Thr Asp Arg Leu Ala Cys Ser Lys Thr Cys Leu Asn Ser Ala Asp	485		490		495
Ile Gly Phe Val Ile Asp Gly Ser Ser Ser Val Gly Thr Gly Asn	500		505		510
Phe Arg Thr Val Leu Gln Phe Val Thr Asn Leu Thr Lys Glu Phe	515		520		525
Glu Ile Ser Asp Thr Asp Thr Arg Ile Gly Ala Val Gln Tyr Thr	530		535		540
Tyr Glu Gln Arg Leu Glu Phe Gly Phe Asp Lys Tyr Ser Ser Lys	545		550		555
Pro Asp Ile Leu Asn Ala Ile Lys Arg Val Gly Tyr Trp Ser Gly	560		565		570
Gly Thr Ser Thr Gly Ala Ala Ile Asn Phe Ala Leu Glu Gln Leu	575		580		585
Phe Lys Lys Ser Lys Pro Asn Lys Arg Lys Leu Met Ile Leu Ile	590		595		600
Thr Asp Gly Arg Ser Tyr Asp Asp Val Arg Ile Pro Ala Met Ala	605		610		615
Ala His Leu Lys Gly Val Ile Thr Tyr Ala Ile Gly Val Ala Trp	620		625		630
Ala Ala Gln Glu Glu Leu Glu Val Ile Ala Thr His Pro Ala Arg	635		640		645
Asp His Ser Phe Phe Val Asp Glu Phe Asp Asn Leu His Gln Tyr	650		655		660
Val Pro Arg Ile Ile Gln Asn Ile Cys Thr Glu Phe Asn Ser Gln	665		670		675

Pro Arg Asn

<210> 180

<211> 1759

<212> DNA

<213> Homo sapiens

<400> 180

caggatgaac tgggtgcagt ggctgctgct gctgcggggg cgctgagagg 50



acacgagctc tatgcctttc cggtctgtca tcccgtcgg cctcctgtgc 100  
gcgtctgtgc ctcagcacca tgggtgcgcca ggtcccgcg gctccgcgcc 150  
agatcccgcc cactacagtt tttctctgac tctaattgat gcactggaca 200  
ccttgctgat tttggggaat gtctcagaat tccaaagagt ggttgaagtg 250  
ctccaggaca gcgtggactt tgatattgat gtgaacgcct ctgtgtttga 300  
aaciaaacatt cgagtggtag gaggactcct gtctgctcat ctgctctcca 350  
agaaggctgg ggtggaagta gaggctggat ggccctgttc cgggcctctc 400  
ctgagaatgg ctgaggaggc ggcccgaata ctctcccag cttttcagac 450  
ccccactggc atgccatatg gaacagtga cttacttcat ggcgtgaacc 500  
caggagagac cctgtgcacc tgtacggcag ggattgggac cttcattgtt 550  
gaatttgcca ccctgagcag cctcactggg gaccgggtgt tcgaagatgt 600  
ggccagagtg gctttgatgc gcctctggga gagccgggtca gatatcgggc 650  
tggtcggcaa ccacattgat gtgctcactg gcaagtgggt ggcccaggac 700  
gcaggcatcg gggctggcgt ggactcctac tttgagtact tggtgaaagg 750  
agccatcctg cttcaggata agaagctcat ggccatgttc ctagagtata 800  
acaaagccat ccggaactac acccgcttcg atgactggta cctgtggggt 850  
cagatgtaca aggggactgt gtccatgcca gtcttccagt ccttgagggc 900  
ctactggcct ggtcttcaga gcctcattgg agacattgac aatgccatga 950  
ggaccttcct caactactac actgtatgga agcagtttgg ggggctccc 1000  
gaattctaca acattcctca gggatacaca gtggagaagc gagagggcta 1050  
cccacttcgg ccagaactta ttgaaagcgc aatgtacctc taccgtgcc 1100  
cgggggatcc caccctccta gaactcggaa gagatgctgt ggaatccatt 1150  
gaaaaaatca gcaaggtgga gtgcggattt gcaacaatca aagatctgcg 1200  
agaccacaag ctggacaacc gcatggagtc gttcttctctg gccgagactg 1250  
tgaaatacct ctacctctg tttgaccaa ccaacttcat ccacaacaat 1300  
gggtccacct tcgacgcggg gatcaccccc tatggggagt gcatcctggg 1350  
ggctgggggg tacatcttca acacagaagc tcaccccatc gaccttgccg 1400  
ccctgcactg ctgccagagg ctgaaggaag agcagtggga ggtggaggac 1450  
ttgatgaggg aattctactc tctcaaacgg agcaggtcga aatttcagaa 1500

aaacactggtt agttcggggc catgggaacc tccagcaagg ccaggaacac 1550  
 tcttctcacc agaaaaccat gaccaggcaa gggagaggaa gcctgccaaa 1600  
 cagaagggtcc cacttctcag ctgccccagt cagcccttca cctccaagtt 1650  
 ggcattactg ggacaggttt tcctagactc ctcataacca ctggataatt 1700  
 tttttattttt tatttttttg aggctaaact ataataaatt gcttttggct 1750  
 atcataaaa 1759

<210> 181  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
 Met Pro Phe Arg Leu Leu Ile Pro Leu Gly Leu Leu Cys Ala Leu  
 1 5 10 15  
 Leu Pro Gln His His Gly Ala Pro Gly Pro Asp Gly Ser Ala Pro  
 20 25 30  
 Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu  
 35 40 45  
 Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val  
 50 55 60  
 Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn  
 65 70 75  
 Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu  
 80 85 90  
 Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala  
 95 100 105  
 Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala  
 110 115 120  
 Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro  
 125 130 135  
 Tyr Gly Thr Val Asn Leu Leu His Gly Val Asn Pro Gly Glu Thr  
 140 145 150  
 Pro Val Thr Cys Thr Ala Gly Ile Gly Thr Phe Ile Val Glu Phe  
 155 160 165  
 Ala Thr Leu Ser Ser Leu Thr Gly Asp Pro Val Phe Glu Asp Val  
 170 175 180  
 Ala Arg Val Ala Leu Met Arg Leu Trp Glu Ser Arg Ser Asp Ile  
 185 190 195  
 Gly Leu Val Gly Asn His Ile Asp Val Leu Thr Gly Lys Trp Val

200									205					210	
Ala	Gln	Asp	Ala	Gly 215	Ile	Gly	Ala	Gly	Val 220	Asp	Ser	Tyr	Phe	Glu 225	
Tyr	Leu	Val	Lys	Gly 230	Ala	Ile	Leu	Leu	Gln 235	Asp	Lys	Lys	Leu	Met 240	
Ala	Met	Phe	Leu	Glu 245	Tyr	Asn	Lys	Ala	Ile 250	Arg	Asn	Tyr	Thr	Arg 255	
Phe	Asp	Asp	Trp	Tyr 260	Leu	Trp	Val	Gln	Met 265	Tyr	Lys	Gly	Thr	Val 270	
Ser	Met	Pro	Val	Phe 275	Gln	Ser	Leu	Glu	Ala 280	Tyr	Trp	Pro	Gly	Leu 285	
Gln	Ser	Leu	Ile	Gly 290	Asp	Ile	Asp	Asn	Ala 295	Met	Arg	Thr	Phe	Leu 300	
Asn	Tyr	Tyr	Thr	Val 305	Trp	Lys	Gln	Phe	Gly 310	Gly	Leu	Pro	Glu	Phe 315	
Tyr	Asn	Ile	Pro	Gln 320	Gly	Tyr	Thr	Val	Glu 325	Lys	Arg	Glu	Gly	Tyr 330	
Pro	Leu	Arg	Pro	Glu 335	Leu	Ile	Glu	Ser	Ala 340	Met	Tyr	Leu	Tyr	Arg 345	
Ala	Thr	Gly	Asp	Pro 350	Thr	Leu	Leu	Glu	Leu 355	Gly	Arg	Asp	Ala	Val 360	
Glu	Ser	Ile	Glu	Lys 365	Ile	Ser	Lys	Val	Glu 370	Cys	Gly	Phe	Ala	Thr 375	
Ile	Lys	Asp	Leu	Arg 380	Asp	His	Lys	Leu	Asp 385	Asn	Arg	Met	Glu	Ser 390	
Phe	Phe	Leu	Ala	Glu 395	Thr	Val	Lys	Tyr	Leu 400	Tyr	Leu	Leu	Phe	Asp 405	
Pro	Thr	Asn	Phe	Ile 410	His	Asn	Asn	Gly	Ser 415	Thr	Phe	Asp	Ala	Val 420	
Ile	Thr	Pro	Tyr	Gly 425	Glu	Cys	Ile	Leu	Gly 430	Ala	Gly	Gly	Tyr	Ile 435	
Phe	Asn	Thr	Glu	Ala 440	His	Pro	Ile	Asp	Leu 445	Ala	Ala	Leu	His	Cys 450	
Cys	Gln	Arg	Leu	Lys 455	Glu	Glu	Gln	Trp	Glu 460	Val	Glu	Asp	Leu	Met 465	
Arg	Glu	Phe	Tyr	Ser 470	Leu	Lys	Arg	Ser	Arg 475	Ser	Lys	Phe	Gln	Lys 480	
Asn	Thr	Val	Ser	Ser 485	Gly	Pro	Trp	Glu	Pro 490	Pro	Ala	Arg	Pro	Gly 495	

Thr Leu Phe Ser Pro Glu Asn His Asp Gln Ala Arg Glu Arg Lys  
500 505 510

Pro Ala Lys Gln Lys Val Pro Leu Leu Ser Cys Pro Ser Gln Pro  
515 520 525

Phe Thr Ser Lys Leu Ala Leu Leu Gly Gln Val Phe Leu Asp Ser  
530 535 540

Ser

<210> 182

<211> 2056

<212> DNA

<213> Homo sapiens

<400> 182

aaagttacat tttctctgga actctcctag gccactccct gctgatgcaa 50  
catctggggtt tgggcagaaa ggaggggtgct tcggagcccg ccctttctga 100  
gcttcctggg ccggctctag aacaattcag gcttcgctgc gactcagacc 150  
tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200  
gctttattttt ggaaagaaac aatgttctag gtcaaactga gtctacaaaa 250  
tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300  
tggtttttct acgcattgat tccatgtttg ctcacagatg aagtggccat 350  
tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400  
tcttgatgtg gagcccagtg atcgcgctg gagaaacagt gtactattct 450  
gtcgaatacc aggggggagta cgagagcctg tacacgagcc acatctggat 500  
ccccagcagc tgggtgtcac tcaactgaagg tcctgagtgt gatgtcactg 550  
atgacatcac ggccactgtg ccatacaacc ttcgtgtcag ggccacattg 600  
ggctcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650  
ctcaaccatc cttacccgac ctgggatgga gatcaccaaa gatggcttcc 700  
acctggttat tgagctggag gacctggggc cccagtttga gttccttgtg 750  
gcctactgga ggagggagcc tggtgccgag gaacatgtca aaatggtgag 800  
gagtgggggt attccagtg acctagaaac catggagcca ggggctgcat 850  
actgtgtgaa ggcccagaca ttcgtgaagg ccattgggag gtacagcgcc 900  
ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca tccccctggt 950  
actggccctg tttgcctttg ttggcttcat gctgatcctt gtggtcgtgc 1000



<220>  
 <221> Tissue factor proteins homology  
 <222> 92-119  
 <223> Tissue factor proteins homology

<220>  
 <221> Transmembrane domain  
 <222> 230-255  
 <223> Transmembrane domain

<220>  
 <221> Integrins alpha chain protein homology  
 <222> 232-262  
 <223> Integrins alpha chain protein homology

<400> 183

Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	Leu	
1				5					10					15	
Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	
			20						25					30	
Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	
			35						40					45	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	
			50						55					60	
Gly	Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	
			65						70					75	
Ser	Leu	Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	
			80						85					90	
Leu	Thr	Glu	Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	
			95						100					105	
Thr	Val	Pro	Tyr	Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	
			110						115					120	
Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	
			125						130					135	
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	
			140						145					150	
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	
			155						160					165	
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	
			170						175					180	
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	
			185						190					195	
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	
			200						205					210	

Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu
				215					220					225
Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
				230					235					240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp
				245					250					255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val
				260					265					270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile
				275					280					285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met
				290					295					300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser				
				305					310					

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
 tcctgtgat gcacatctgg gtttggcaaa aggaggttgc ttcgagccgc 50  
 cctttctagc ttcttgccg gctctagaac aattcaggct tcgctgac 100  
 tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
 agaatgcttt attttgaaa gaaacaatgt tctaggtcaa actgagtcta 200  
 ccaaagtcag actttcaca tgggttctaga agaaatctgg acaagtcttt 250  
 tcatgtggtt tttctacgca ttgattccat gtttgctcac agatgaagt 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
 attctgtcga ataccagggg gactacgaga gcctgtacac gagccacatc 450  
 tggatcccca gcagctggtg ctactcact gaaggctctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggcc 550  
 cattgggctc acagacctca gcctggagca tctgaagca tccctttaat 600  
 agaaactcaa ccaccttac ccgacctggg atggagatca ccaaagatgg 650

cttnacactg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750  
 gaacccttg cggccgctgg ggtatctctc gagaaaagag aggcccaata 800  
 tgaccac 808

<210> 185  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 185  
 aggcttcgct gcgactagac ctc 23

<210> 186  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 186  
 ccaggtcggg taaggatggt tgag 24

<210> 187  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 187  
 tttctacga ttgattccat gtttgctcac agatgaagtg gccattctgc 50

<210> 188  
 <211> 1227  
 <212> DNA  
 <213> Homo sapiens

<400> 188  
 cggacgcgtg ggccgccacc tccggaacaa gccatggtgg cggcgacggt 50  
 ggcagcggcg tggtgctcc tgtgggctgc ggctgcgcg cagcaggagc 100  
 aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtcg 150  
 ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
 gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
 acctgggccc ccaccacttt aacgtgctcg ccttccctcg caaccagttt 300



ggccaacagg	agcctgacag	caacaaggag	attgagagct	ttgcccgcg	350
cacctacagt	gtctcattec	ccatgtttag	caagattgca	gtcaccggta	400
ctggtgcccc	tcttgccctc	aagtacctgg	cccagacttc	tgggaaggag	450
cccacctgga	acttctggaa	gtacctagta	gccccagatg	gaaaggtggt	500
aggggcttgg	gacccaactg	tgtcagtgga	ggaggtcaga	cccagatca	550
cagcgctcgt	gaggaagctc	atcctactga	agcgagaaga	cttataacca	600
ccgcgtctcc	tctccacca	cctcatccc	cccacctgtg	tggggctgac	650
caatgcaaac	tcaaatggtg	cttcaaagg	agagaccac	tgactctcct	700
tcttttactc	ttatgccatt	ggtcccatca	ttcttgtggg	ggaaaaattc	750
tagtattttg	attatttgaa	tcttacagca	acaaatagga	actcctggcc	800
aatgagagct	cttgaccagt	gaatcaccag	ccgatacgaa	cgtcttgcca	850
acaaaaatgt	gtggcaaata	gaagtatatc	aagcaataat	ctcccaccca	900
aggcttctgt	aaactgggac	caatgattac	ctcatagggc	tgttgtgagg	950
attaggatga	aatacctgtg	aaagtgccta	ggcagtgcca	gccaaatagg	1000
aggcattcaa	tgaacatttt	ttgcatataa	acaaaaaat	aacttgttat	1050
caataaaaac	ttgcatccaa	catgaatttc	cagccgatga	taatccaggc	1100
caaaggttta	gttgttgtta	tttctctgt	attattttct	tcattacaaa	1150
agaaatgcaa	gttcattgta	acaatccaaa	caatacctca	cgatataaaa	1200
taaaaaatgaa	agtatcctcc	tcaaaaa	1227		

<210> 189

<212> PRT

<213> Homo sapiens

<400> 189

Met Val Ala Ala Thr Val Ala Ala Ala Trp Leu Leu Leu Trp Ala  
1 5 10 15

Ala Ala Cys Ala Gln Gln Glu Gln Asp Phe Tyr Asp Phe Lys Ala  
20 25 30

Val Asn Ile Arg Gly Lys Leu Val Ser Leu Glu Lys Tyr Arg Gly  
35 40 45

Ser Val Ser Leu Val Val Asn Val Ala Ser Glu Cys Gly Phe Thr  
50 55 60

Asp Gln His Tyr Arg Ala Leu Gln Gln Leu Gln Arg Asp Leu Gly  
65 70 75

Pro	His	His	Phe	Asn	Val	Leu	Ala	Phe	Pro	Cys	Asn	Gln	Phe	Gly	80	85	90
Gln	Gln	Glu	Pro	Asp	Ser	Asn	Lys	Glu	Ile	Glu	Ser	Phe	Ala	Arg	95	100	105
Arg	Thr	Tyr	Ser	Val	Ser	Phe	Pro	Met	Phe	Ser	Lys	Ile	Ala	Val	110	115	120
Thr	Gly	Thr	Gly	Ala	His	Pro	Ala	Phe	Lys	Tyr	Leu	Ala	Gln	Thr	125	130	135
Ser	Gly	Lys	Glu	Pro	Thr	Trp	Asn	Phe	Trp	Lys	Tyr	Leu	Val	Ala	140	145	150
Pro	Asp	Gly	Lys	Val	Val	Gly	Ala	Trp	Asp	Pro	Thr	Val	Ser	Val	155	160	165
Glu	Glu	Val	Arg	Pro	Gln	Ile	Thr	Ala	Leu	Val	Arg	Lys	Leu	Ile	170	175	180
Leu	Leu	Lys	Arg	Glu	Asp	Leu									185		

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaaactgg tgctgctgga gaagtaccgc ggatcggtgt 50

<210> 193

<211> 2187  
<212> DNA  
<213> Homo sapiens

<400> 193  
cggacgcgtg ggcgggccgg gacgcagggc aaagcgagcc atggctgtct 50  
acgtcgggat gctgcgcctg gggaggctgt gcgccgggag ctcgggggtg 100  
ctgggggccc gggccgccct ctctcggagt tggcaggaag ccaggttgca 150  
gggtgtccgc ttccctcagtt ccagagaggt ggatcgcatt gtctccacgc 200  
ccatcggagg cctcagctac gttcaggggt gcacaaaaaa gcatcttaac 250  
agcaagactg tgggccagtg cctggagacc acagcacaga ggggtcccaga 300  
acgagaggcc ttggtcgtcc tccatgaaga cgtcagggtg acctttgccc 350  
aactcaagga ggagggtggac aaagctgctt ctggcctcct gagcattggc 400  
ctctgcaaag gtgaccggct gggcatgtgg ggacctaaact cctatgcatg 450  
ggtgctcatg cagttggcca ccgcccaggc gggcatcatt ctggtgtctg 500  
tgaaccacgc ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
ggctgcaagg cccttgtgtt cccaagcaa ttcaagacct agcaatacta 600  
caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
ccttgaagag tcagaggctc ccagatctga ccacagtcatt ctcggtggat 700  
gcccctttgc cggggaccct gctcctggat gaagtgggtg cggctggcag 750  
cacacggcag catctggacc agctccaata caaccagcag ttctgtcct 800  
gccatgacct catcaacatc cagttcacct cggggacaac aggcagcccc 850  
aagggggcca ccctctcca ctacaacatt gtcaacaact ccaacatttt 900  
aggagagcgc ctgaaactgc atgagaagac accagagcag ttgcggatga 950  
tcctgccccaa cccctgtac cattgcctgg gttccgtggc aggcacaatg 1000  
atgtgtctga tgtacgggtg caccctcatc ctggcctctc ccatcttcaa 1050  
tggcaagaag gcactggagg ccatcagcag agagagaggc accttctgt 1100  
atggtacccc cacgatgttc gtggacattc tgaaccagcc agacttctcc 1150  
agttatgaca tctcgacctg gtgtggagggt gtcattgctg ggtcccctgc 1200  
acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
tggtggttgc ttatggaacc acagagaaca gtcccgtgac attcgcgcac 1300  
ttccctgagg aactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350

094199202201

gcctcacacg	gaggcccgga	tcatgaacat	ggaggcaggg	acgctggcaa	1400
agctgaacac	gcccggggag	ctgtgcatcc	gaggggtactg	cgtcatgctg	1450
ggctactggg	gtgagcctca	gaagacagag	gaagcagtgg	atcaggacaa	1500
gtgggtattg	acaggagatg	tcgccacaat	gaatgagcag	ggcttctgca	1550
agatcgtggg	ccgctctaag	gatatgatca	tccgggggtg	tgagaacatc	1600
taccccgag	agctcgagga	cttctttcac	acacaccga	aggtgcagga	1650
agtgcagggtg	gtgggagtga	aggacgatcg	gatgggggaa	gagatttgtg	1700
cctgcattcg	gctgaaggac	ggggaggaga	ccacggtgga	ggagataaaa	1750
gctttctgca	aagggaagat	ctctcacttc	aagattccga	agtacatcgt	1800
gtttgtcaca	aactacccc	tcaccatttc	aggaaagatc	cagaaattca	1850
aacttcgaga	gcagatggaa	cgacatctaa	atctgtgaat	aaagcagcag	1900
gcctgtcctg	gccggttggc	ttgactctct	cctgtcagaa	tgcaacctgg	1950
ctttatgcac	ctagatgtcc	ccagcaccca	gttctgagcc	aggcacatca	2000
aatgtcaagg	aattgactga	acgaactaag	agctcctgga	tgggtccggg	2050
aactcgctg	ggcacaaggt	gccaaaaggc	aggcagcctg	cccaggccct	2100
ccctcctgtc	catccccac	attcccctgt	ctgtccttgt	gatttggcat	2150
aaagagcttc	tgttttcttt	gaaaaaaaaa	aaaaaaa	2187	

```
<210> 194
<211> 615
<212> PRT
<213> Homo sapiens
```

Met	Ala	Val	Tyr	Val	Gly	Met	Leu	Arg	Leu	Gly	Arg	Leu	Cys	Ala
1				5					10					15
Gly	Ser	Ser	Gly	Val	Leu	Gly	Ala	Arg	Ala	Ala	Leu	Ser	Arg	Ser
				20					25					30
Trp	Gln	Glu	Ala	Arg	Leu	Gln	Gly	Val	Arg	Phe	Leu	Ser	Ser	Arg
				35					40					45
Glu	Val	Asp	Arg	Met	Val	Ser	Thr	Pro	Ile	Gly	Gly	Leu	Ser	Tyr
				50					55					60
Val	Gln	Gly	Cys	Thr	Lys	Lys	His	Leu	Asn	Ser	Lys	Thr	Val	Gly
				65					70					75
Gln	Cys	Leu	Glu	Thr	Thr	Ala	Gln	Arg	Val	Pro	Glu	Arg	Glu	Ala
				80					85					90

Leu	Val	Val	Leu	His	Glu	Asp	Val	Arg	Leu	Thr	Phe	Ala	Gln	Leu	
				95					100					105	
Lys	Glu	Glu	Val	Asp	Lys	Ala	Ala	Ser	Gly	Leu	Leu	Ser	Ile	Gly	
				110					115					120	
Leu	Cys	Lys	Gly	Asp	Arg	Leu	Gly	Met	Trp	Gly	Pro	Asn	Ser	Tyr	
				125					130					135	
Ala	Trp	Val	Leu	Met	Gln	Leu	Ala	Thr	Ala	Gln	Ala	Gly	Ile	Ile	
				140					145					150	
Leu	Val	Ser	Val	Asn	Pro	Ala	Tyr	Gln	Ala	Met	Glu	Leu	Glu	Tyr	
				155					160					165	
Val	Leu	Lys	Lys	Val	Gly	Cys	Lys	Ala	Leu	Val	Phe	Pro	Lys	Gln	
				170					175					180	
Phe	Lys	Thr	Gln	Gln	Tyr	Tyr	Asn	Val	Leu	Lys	Gln	Ile	Cys	Pro	
				185					190					195	
Glu	Val	Glu	Asn	Ala	Gln	Pro	Gly	Ala	Leu	Lys	Ser	Gln	Arg	Leu	
				200					205					210	
Pro	Asp	Leu	Thr	Thr	Val	Ile	Ser	Val	Asp	Ala	Pro	Leu	Pro	Gly	
				215					220					225	
Thr	Leu	Leu	Leu	Asp	Glu	Val	Val	Ala	Ala	Gly	Ser	Thr	Arg	Gln	
				230					235					240	
His	Leu	Asp	Gln	Leu	Gln	Tyr	Asn	Gln	Gln	Phe	Leu	Ser	Cys	His	
				245					250					255	
Asp	Pro	Ile	Asn	Ile	Gln	Phe	Thr	Ser	Gly	Thr	Thr	Gly	Ser	Pro	
				260					265					270	
Lys	Gly	Ala	Thr	Leu	Ser	His	Tyr	Asn	Ile	Val	Asn	Asn	Ser	Asn	
				275					280					285	
Ile	Leu	Gly	Glu	Arg	Leu	Lys	Leu	His	Glu	Lys	Thr	Pro	Glu	Gln	
				290					295					300	
Leu	Arg	Met	Ile	Leu	Pro	Asn	Pro	Leu	Tyr	His	Cys	Leu	Gly	Ser	
				305					310					315	
Val	Ala	Gly	Thr	Met	Met	Cys	Leu	Met	Tyr	Gly	Ala	Thr	Leu	Ile	
				320					325					330	
Leu	Ala	Ser	Pro	Ile	Phe	Asn	Gly	Lys	Lys	Ala	Leu	Glu	Ala	Ile	
				335					340					345	
Ser	Arg	Glu	Arg	Gly	Thr	Phe	Leu	Tyr	Gly	Thr	Pro	Thr	Met	Phe	
				350					355					360	
Val	Asp	Ile	Leu	Asn	Gln	Pro	Asp	Phe	Ser	Ser	Tyr	Asp	Ile	Ser	
				365					370					375	
Thr	Met	Cys	Gly	Gly	Val	Ile	Ala	Gly	Ser	Pro	Ala	Pro	Pro	Glu	

	380		385		390
Leu Ile Arg Ala	Ile Ile Asn Lys Ile	Asn Met Lys Asp Leu	Val		
	395		400		405
Val Ala Tyr Gly	Thr Thr Glu Asn Ser	Pro Val Thr Phe Ala	His		
	410		415		420
Phe Pro Glu Asp	Thr Val Glu Gln Lys	Ala Glu Ser Val Gly	Arg		
	425		430		435
Ile Met Pro His	Thr Glu Ala Arg Ile	Met Asn Met Glu Ala	Gly		
	440		445		450
Thr Leu Ala Lys	Leu Asn Thr Pro Gly	Glu Leu Cys Ile Arg	Gly		
	455		460		465
Tyr Cys Val Met	Leu Gly Tyr Trp Gly	Glu Pro Gln Lys Thr	Glu		
	470		475		480
Glu Ala Val Asp	Gln Asp Lys Trp Tyr	Trp Thr Gly Asp Val	Ala		
	485		490		495
Thr Met Asn Glu	Gln Gly Phe Cys Lys	Ile Val Gly Arg Ser	Lys		
	500		505		510
Asp Met Ile Ile	Arg Gly Gly Glu Asn	Ile Tyr Pro Ala Glu	Leu		
	515		520		525
Glu Asp Phe Phe	His Thr His Pro Lys	Val Gln Glu Val Gln	Val		
	530		535		540
Val Gly Val Lys	Asp Asp Arg Met Gly	Glu Glu Ile Cys Ala	Cys		
	545		550		555
Ile Arg Leu Lys	Asp Gly Glu Glu Thr	Thr Val Glu Glu Ile	Lys		
	560		565		570
Ala Phe Cys Lys	Gly Lys Ile Ser His	Phe Lys Ile Pro Lys	Tyr		
	575		580		585
Ile Val Phe Val	Thr Asn Tyr Pro Leu	Thr Ile Ser Gly Lys	Ile		
	590		595		600
Gln Lys Phe Lys	Leu Arg Glu Gln Met	Glu Arg His Leu Asn	Leu		
	605		610		615

<210> 195

<211> 642

<212> DNA

<213> Homo sapiens

<400> 195

caactccaac attttaggag agcgccctgaa actgcatgag aagacaccag 50

agcagttgcg gatgatcctg cccaaccccc tgtaccattg cctgggttcc 100

gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatactggc 150

ctctcccatc ttcaatggca agaaggcact ggaggccatc agcagagaga 200  
gaggcacctt cctgtatggt acccccacga tgttcgtgga cattctgaac 250  
cagccagact tctccagtta tgacatctcg accatgtgtg gaggtgtcat 300  
tgctgggtcc cctgcacctc cagagttgat ccgagccatc atcaacaaga 350  
taaatatgaa ggacctggtg gttgcttatg gaaccacaga gaacagtccc 400  
gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaag 450  
cgtgggcaga attatgcctc acacggaggc gcggatcatg aacatggagg 500  
cagggacgct ggcaaagctg aacacgcccc gggagctgtg catccgaggg 550  
tactgctca tgctgggcta ctgggggtgag cctcagaaga cagaggaagc 600  
agtggatcag gacaagtggg attggacagg agatgtcgcc ac 642

<210> 196  
<211> 1575  
<212> DNA  
<213> Homo sapiens

<400> 196  
gagcaggacg gagccatgga ccccgccagg aaagcaggtg cccaggccat 50  
gatctggact gcaggctggc tgctgctgct gctgcttcgc ggaggagcgc 100  
aggccctgga gtgctacagc tgcgtgcaga aagcagatga cggatgctcc 150  
ccgaacaaga tgaagacagt gaagtgcgcg cggggcgtgg acgtctgcac 200  
cgaggccgtg ggggcgggtg agaccatcca cggacaattc tcgctggcag 250  
tgcgggggtg cggttcggga ctccccggca agaatgaccg cggcctggat 300  
cttcacgggc ttctggcggt catccagctg cagcaatgcg ctgaggatcg 350  
ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac ccggcaggta 400  
atgagagtgc ataccgccc aacggcgtgg agtgctacag ctgtgtgggc 450  
ctgagccggg aggcgtgcca gggtagatcg ccgcccgtcg tgagctgcta 500  
caacgccagc gatcatgtct acaagggctg cttcgacggc aacgtcacct 550  
tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
gatgaattct gcaactcggga tggagtaaca ggcccagggt tcacgctcag 650  
tggctcctgt tgccaggggt cccgctgtaa ctctgacctc cgcaacaaga 700  
cctacttctc cctcgaatc ccaccccttg tccggctgcc cctccagag 750  
cccacgactg tggcctcaac cacatctgtc accacttcta cctcgggccc 800

agtgagaccc acatccacca ccaaaccat gccagcgcca accagtcaga 850  
 ctccgagaca gggagtagaa cacgaggcct cccgggatga ggagcccagg 900  
 ttgactggag gcgcccgtgg ccaccaggac cgcagcaatt cagggcagta 950  
 tcctgcaaaa ggggggcccc agcagcccca taataaaggc tgtgtggctc 1000  
 ccacagctgg attggcagcc cttctgttgg ccgtggctgc tgggtgccta 1050  
 ctgtgagctt ctccacctgg aaatttcct ctcacctact tctctggccc 1100  
 tgggtacccc tcttctcatc acttcctgtt cccaccactg gactgggctg 1150  
 gcccagcccc tggtttttcca acattcccca gtatccccag cttctgctgc 1200  
 gctggtttgc ggctttggga aataaaatac cgttgtatat attctgccag 1250  
 ggggtgttcta gctttttgag gacagctcct gtatccttct catccttgc 1300  
 tctccgcttg tcctcttgtg atgttaggac agagtgagag aagtcagctg 1350  
 tcacggggaa ggtgagagag aggatgctaa gcttcctact cactttctcc 1400  
 tagccagcct ggactttgga gcgtggggtg ggtgggacaa tggctcccca 1450  
 ctctaagcac tgcctcccct actccccgca tctttgggga atcggttccc 1500  
 catatgtctt ccttactaga ctgtgagctc ctcgaggggg ggcccgtac 1550  
 ccaattcgcc ctatagttag tcgta 1575

<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

Met	Asp	Pro	Ala	Arg	Lys	Ala	Gly	Ala	Gln	Ala	Met	Ile	Trp	Thr
1				5				10					15	
Ala	Gly	Trp	Leu	Leu	Leu	Leu	Leu	Arg	Gly	Gly	Ala	Gln	Ala	
			20					25				30		
Leu	Glu	Cys	Tyr	Ser	Cys	Val	Gln	Lys	Ala	Asp	Asp	Gly	Cys	Ser
				35				40				45		
Pro	Asn	Lys	Met	Lys	Thr	Val	Lys	Cys	Ala	Pro	Gly	Val	Asp	Val
				50				55				60		
Cys	Thr	Glu	Ala	Val	Gly	Ala	Val	Glu	Thr	Ile	His	Gly	Gln	Phe
			65					70				75		
Ser	Leu	Ala	Val	Arg	Gly	Cys	Gly	Ser	Gly	Leu	Pro	Gly	Lys	Asn
			80					85				90		
Asp	Arg	Gly	Leu	Asp	Leu	His	Gly	Leu	Leu	Ala	Phe	Ile	Gln	Leu
			95					100					105	



Gln	Gln	Cys	Ala	Gln	Asp	Arg	Cys	Asn	Ala	Lys	Leu	Asn	Leu	Thr	
				110					115					120	
Ser	Arg	Ala	Leu	Asp	Pro	Ala	Gly	Asn	Glu	Ser	Ala	Tyr	Pro	Pro	
				125					130					135	
Asn	Gly	Val	Glu	Cys	Tyr	Ser	Cys	Val	Gly	Leu	Ser	Arg	Glu	Ala	
				140					145					150	
Cys	Gln	Gly	Thr	Ser	Pro	Pro	Val	Val	Ser	Cys	Tyr	Asn	Ala	Ser	
				155					160					165	
Asp	His	Val	Tyr	Lys	Gly	Cys	Phe	Asp	Gly	Asn	Val	Thr	Leu	Thr	
				170					175					180	
Ala	Ala	Asn	Val	Thr	Val	Ser	Leu	Pro	Val	Arg	Gly	Cys	Val	Gln	
				185					190					195	
Asp	Glu	Phe	Cys	Thr	Arg	Asp	Gly	Val	Thr	Gly	Pro	Gly	Phe	Thr	
				200					205					210	
Leu	Ser	Gly	Ser	Cys	Cys	Gln	Gly	Ser	Arg	Cys	Asn	Ser	Asp	Leu	
				215					220					225	
Arg	Asn	Lys	Thr	Tyr	Phe	Ser	Pro	Arg	Ile	Pro	Pro	Leu	Val	Arg	
				230					235					240	
Leu	Pro	Pro	Pro	Glu	Pro	Thr	Thr	Val	Ala	Ser	Thr	Thr	Ser	Val	
				245					250					255	
Thr	Thr	Ser	Thr	Ser	Ala	Pro	Val	Arg	Pro	Thr	Ser	Thr	Thr	Lys	
				260					265					270	
Pro	Met	Pro	Ala	Pro	Thr	Ser	Gln	Thr	Pro	Arg	Gln	Gly	Val	Glu	
				275					280					285	
His	Glu	Ala	Ser	Arg	Asp	Glu	Glu	Pro	Arg	Leu	Thr	Gly	Gly	Ala	
				290					295					300	
Ala	Gly	His	Gln	Asp	Arg	Ser	Asn	Ser	Gly	Gln	Tyr	Pro	Ala	Lys	
				305					310					315	
Gly	Gly	Pro	Gln	Gln	Pro	His	Asn	Lys	Gly	Cys	Val	Ala	Pro	Thr	
				320					325					330	
Ala	Gly	Leu	Ala	Ala	Leu	Leu	Leu	Ala	Val	Ala	Ala	Gly	Val	Leu	
				335					340					345	

Leu

<210> 198

<211> 1657

<212> DNA

<213> Homo sapiens

<400> 198

cgggactcgg cgggtcctcc tgggagtctc ggaggggacc ggctgtgcag 50

acgccatgga gttggtgctg gtcttcctct gcagcctgct ggcccccatg 100  
gtcctggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
tctcggttgg gatcctcctt atcctaagtc gcaggtgcaa gtgcagtttc 250  
aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
catcaccgcc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
catcaggtgg aagcctctgg aacctgaggc ggctgcttga acctttggat 400  
gcaaatgtcg atgcttaaga aaaccggcca cttcagcaac agccctttcc 450  
ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
gcggtcctgc ccacctcccg tgatgtgtgt gtgtgtgtgt gtgtgtgact 600  
gtgtgtgttt gctaactgtg gtctttgtgg ctacttgttt gtggatggta 650  
ttgtgtttgt tagtgaactg tggactcgct ttcccaggca ggggctgagc 700  
cacatggcca tctgtcctc cctgcccccg tggccctcca tcaccttctg 750  
ctcctaggag gctgcttgtt gcccagagacc agccccctcc cctgatttag 800  
ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tcttgggacc 850  
tgggaagggt tgcagcactt tgtcatcatt cttcatggac tcctttcact 900  
cctttaacaa aaaccttgct tccttatccc acctgatccc agtctgaagg 950  
tctcttagca actggagata caaagcaagg agctggtgag cccagcgttg 1000  
acgtcaggca ggctatgcc ttccgtggtt aatttcttcc caggggcttc 1050  
cacgaggagt ccccatctgc cccgccccctt cacagagcgc ccggggattc 1100  
caggcccagg gcttctactc tgcccctggg gaatgtgtcc cctgcatatc 1150  
ttctcagcaa taactccatg ggctctggga ccctaccctt tccaaccttc 1200  
cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
cagtccttgc aattgggtct ctggcaggca atagttgaag gactcctggt 1300  
ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
cttctctgcc tacgtccct tagatgggca gcagaggcaa ctcccgcata 1400  
ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttggaga 1450  
ctcagcaggc tccgtgcagc ccttggaac agtgagaggt tgaaggcat 1500

aacgagagtg ggaactcaac ccagatcccg cccctcctgt cctctgtgtt 1550  
 cccgcggaaa ccaaccaaac cgtgcgctgt gaccattgc tgttctctgt 1600  
 atcgtgatct atcctcaaca acaacagaaa aaaggaataa aatatacctt 1650  
 gtttcct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met  
 1 5 10 15  
 Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
 20 25 30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
 35 40 45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
 50 55 60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
 65 70 75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
 80 85 90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
 95 100 105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
 110 115 120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
 aaacttgacg ccatgaagat cccggtcctt cctgccgtgg tgctcctctc 50  
 cctcctggtg ctccactctg cccagggagc caccctgggt ggtcctgagg 100  
 aagaaagcac cattgagaat tatgcgtcac gacccgaggc ctttaacacc 150  
 ccgttctctga acatcgacaa attgcgatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cagccctctt ttgagtctat caaaaggaaa cttcctttcc 250  
 tcaactggga tgcctttcct aagctgaaag gactgaggag cgcaactcct 300  
 gatgccagtg gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350

tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400  
cattttccat ccaaa 415

<210> 201  
<211> 99  
<212> PRT  
<213> Homo sapiens

<400> 201  
Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu  
1 5 10 15  
Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu  
20 25 30  
Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn  
35 40 45  
Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala  
50 55 60  
Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg  
65 70 75  
Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly  
80 85 90  
Leu Arg Ser Ala Thr Pro Asp Ala Gln  
95

<210> 202  
<211> 678  
<212> DNA  
<213> Homo sapiens

<400> 202  
cagttctgaa atcaatggag ttaatttagg gaatacaaac cagccatggg 50  
ggtggagatt gcctttgcct cagtgattct cacctgcctc tcccttctgg 100  
cagcaggagt ctcccagggt gttctttctcc agccagttcc aactcaggag 150  
acaggtccca aggccatggg agatctctcc tgtggctttg ccggccactc 200  
atgagagtgt ttttgtgtaa agtatttttt agaatactgt tgacttcttc 250  
atgatttaat aaccatcctt tgccaagttt tatgaggctt taggggaatg 300  
tcaaccctca aatttttggt atactagatg gcttccattt acccaccact 350  
attttaaggt ccttttattt ttaggttcaa ggttcatttg acttgagaaa 400  
gtgcccttct gcagcttcat tgattttggt tatcttcact attaattgta 450  
acgattaaaa aagaataaga gcacgcagac ctctaggaga atattttatc 500  
cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattggt 550

1032202667650

aattttaaagtg ttatttctaatt attagtagcat tcagttgtga tgtaatatga 600  
 ataaccagaa tctatttctt aaaagttttg agtatatttt tcaactagat 650  
 atttgtatag aaagactgaa tagtgatg 678

<210> 203  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
 Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
 1 5 10 15  
 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
 20 25 30  
 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
 35 40 45  
 Cys Gly Phe Ala Gly His Ser  
 50

<210> 204  
 <211> 1917  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
 ggggaatctg cagtaggtct gccggcgatg gagggtggg ctagctcgcc 50  
 gcttcggctc tggctgctgt tgttctctct gccctcagcg cagggccgccc 100  
 agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
 tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
 tgggtgtcata gaagaggatc taactccttt ccgaggaggc atctccagga 250  
 agatgatggc agaggtagtc agacggaagc tagggaccca ctatcagatc 300  
 actaagaaca gactgtaccg ggaaaatgac tgcattgtcc cctcaagggtg 350  
 tagtggtgtt gagcacttta ttttggaagt gatcgggctg ctccctgaca 400  
 tggagatggg gatcaatgta cgagattatc ctcagggttcc taaatggatg 450  
 gagcctgcca tcccagtctt ctcttcagtc aagacatcag agtaccatga 500  
 tatcatgtat cctgcttggg cattttggga agggggacct gctgtttggc 550  
 caatttatcc tacagggtctt ggacgggtggg acctcttcag agaagatctg 600  
 gtaaggtcag cagcacagtg gccatggaaa aagaaaaact ctacagcata 650  
 tttccgagga tcaaggacaa gtccagaacg agatcctctc attcttctgt 700

ctcggaaaaa cccaaaactt gttgatgcag aatacaccaa aaaccaggcc 750  
 tggaaatcta tgaaagatac cttaggaaag ccagctgcta aggatgtcca 800  
 tcttgtggat cactgcaaata acaagtatct gtttaatttt cgaggcgtag 850  
 ctgcaagttt ccgggtttaa cacctcttcc tgtgtggctc acttgttttc 900  
 catgttgggtg atgagtgggt agaattcttc tatccacagc tgaagccatg 950  
 ggttcactat atcccagtca aaacagatct ctccaatgtc caagagctgt 1000  
 tacaatttgt aaaagcaaata gatgatgtag ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctggggagaac ctcttgagtg aatactctaa attcctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaaatggt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
 gatatcctac ggtgagaagc ttaccataag cttggctcct ataccttgaa 1300  
 tatctgctat caagccaaat acctggtttt ccttatcatg ctgcaccag 1350  
 agcaactctt gagaaagatt taaaatgtgt ctaatacact gatatgaagc 1400  
 agttcaactt tttggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
 tgaacccaac tctaccttc attttcttaa gaccaatcac agcttgtgcc 1500  
 tcagatcatc cacctgtgtg agtccatcac tgtgaaattg actgtgtcca 1550  
 tgtgatgatg ccctttgtcc cattatttgg agcagaaaat tcgtcatttg 1600  
 gaagtagtac aactcattgc tggaattgtg aaattattca aggcgtgatc 1650  
 tctgtcactt tattttaatg taggaaacc tatggggttt atgaaaaata 1700  
 cttggggatc atttctgaa tgggtctaagg aagcggtagc catgccatgc 1750  
 aatgatgtag gagttctctt ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
 caattggatt tcaggttccc ttttgtgcc ttcatgccct acttcttaat 1900  
 gcctctctaa agccaaa 1917

<210> 205

<211> 392

<212> PRT

<213> Homo sapiens

<400> 205

Met	Glu	Trp	Trp	Ala	Ser	Ser	Pro	Leu	Arg	Leu	Trp	Leu	Leu	Leu
1				5					10					15

Phe	Leu	Leu	Pro	Ser	Ala	Gln	Gly	Arg	Gln	Lys	Glu	Ser	Gly	Ser		20	25	30
Lys	Trp	Lys	Val	Phe	Ile	Asp	Gln	Ile	Asn	Arg	Ser	Leu	Glu	Asn		35	40	45
Tyr	Glu	Pro	Cys	Ser	Ser	Gln	Asn	Cys	Ser	Cys	Tyr	His	Gly	Val		50	55	60
Ile	Glu	Glu	Asp	Leu	Thr	Pro	Phe	Arg	Gly	Gly	Ile	Ser	Arg	Lys		65	70	75
Met	Met	Ala	Glu	Val	Val	Arg	Arg	Lys	Leu	Gly	Thr	His	Tyr	Gln		80	85	90
Ile	Thr	Lys	Asn	Arg	Leu	Tyr	Arg	Glu	Asn	Asp	Cys	Met	Phe	Pro		95	100	105
Ser	Arg	Cys	Ser	Gly	Val	Glu	His	Phe	Ile	Leu	Glu	Val	Ile	Gly		110	115	120
Arg	Leu	Pro	Asp	Met	Glu	Met	Val	Ile	Asn	Val	Arg	Asp	Tyr	Pro		125	130	135
Gln	Val	Pro	Lys	Trp	Met	Glu	Pro	Ala	Ile	Pro	Val	Phe	Ser	Phe		140	145	150
Ser	Lys	Thr	Ser	Glu	Tyr	His	Asp	Ile	Met	Tyr	Pro	Ala	Trp	Thr		155	160	165
Phe	Trp	Glu	Gly	Gly	Pro	Ala	Val	Trp	Pro	Ile	Tyr	Pro	Thr	Gly		170	175	180
Leu	Gly	Arg	Trp	Asp	Leu	Phe	Arg	Glu	Asp	Leu	Val	Arg	Ser	Ala		185	190	195
Ala	Gln	Trp	Pro	Trp	Lys	Lys	Lys	Asn	Ser	Thr	Ala	Tyr	Phe	Arg		200	205	210
Gly	Ser	Arg	Thr	Ser	Pro	Glu	Arg	Asp	Pro	Leu	Ile	Leu	Leu	Ser		215	220	225
Arg	Lys	Asn	Pro	Lys	Leu	Val	Asp	Ala	Glu	Tyr	Thr	Lys	Asn	Gln		230	235	240
Ala	Trp	Lys	Ser	Met	Lys	Asp	Thr	Leu	Gly	Lys	Pro	Ala	Ala	Lys		245	250	255
Asp	Val	His	Leu	Val	Asp	His	Cys	Lys	Tyr	Lys	Tyr	Leu	Phe	Asn		260	265	270
Phe	Arg	Gly	Val	Ala	Ala	Ser	Phe	Arg	Phe	Lys	His	Leu	Phe	Leu		275	280	285
Cys	Gly	Ser	Leu	Val	Phe	His	Val	Gly	Asp	Glu	Trp	Leu	Glu	Phe		290	295	300
Phe	Tyr	Pro	Gln	Leu	Lys	Pro	Trp	Val	His	Tyr	Ile	Pro	Val	Lys				

	305		310		315
Thr Asp Leu Ser Asn Val Gln Glu Leu Leu Gln Phe Val Lys Ala					
	320		325		330
Asn Asp Asp Val Ala Gln Glu Ile Ala Glu Arg Gly Ser Gln Phe					
	335		340		345
Ile Arg Asn His Leu Gln Met Asp Asp Ile Thr Cys Tyr Trp Glu					
	350		355		360
Asn Leu Leu Ser Glu Tyr Ser Lys Phe Leu Ser Tyr Asn Val Thr					
	365		370		375
Arg Arg Lys Gly Tyr Asp Gln Ile Ile Pro Lys Met Leu Lys Thr					
	380		385		390
Glu Leu					

<210> 206  
 <211> 1425  
 <212> DNA  
 <213> Homo sapiens

<400> 206  
 caccctcca tttctcgcca tggccctgc actgctcctg atccctgctg 50  
 ccctcgctc tttcatcctg gcctttggca ccggagtgga gttcgtgcgc 100  
 tttacctccc ttcggccact tcttgaggag atcccggagt ctggtggtcc 150  
 ggatgcccg cagggatggc tggctgccct gcaggaccgc agcatccttg 200  
 cccccctggc atgggatctg gggctcctgc ttctatttgt tgggcagcac 250  
 agcctcatgg cagctgaaag agtgaaggca tggacatccc ggtactttgg 300  
 ggtccttcag aggtcactgt atgtggcctg cactgccctg gccttgacgc 350  
 tggatgatgc gtactgggag ccataccca aaggccctgt gttgtgggag 400  
 gctcgggctg agccatgggc cacctgggtg ccgctcctct gctttgtgct 450  
 ccatgtcatc tcctggctcc tcatctttag catccttctc gtctttgact 500  
 atgctgagct catgggcctc aaacaggtat actaccatgt gctggggctg 550  
 ggcgagcctc tggccctgaa gtctccccgg gctctcagac tcttctccca 600  
 cctgcgccac ccagtgtgtg tggagctgct gacagtgtg tgggtggtgc 650  
 ctaccctggg cacggaccgt ctctccttg ctttctcct taccctctac 700  
 ctgggcctgg ctacgggct tgatcagcaa gacctccgct acctccgggc 750  
 ccagctacaa agaaaactcc acctgctctc tcggccccag gatggggagg 800



cagagtgagg agtccactct gggtacaagc cctgttcttc ctctcccact 850  
gaattctaaa tccttaacat ccaggccctg gctgcttcat gccagaggcc 900  
caaatccatg gactgaagga gatgcccctt ctactacttg agactttatt 950  
ctctgggtcc agtccatac cctaaattct gagtttcagc cactgaactc 1000  
caagggtccac ttctcaccag caaggaagag tgggggtatgg aagtcactctg 1050  
tcccttcact gtttagagca tgacactctc cccctcaaca gcctcctgag 1100  
aaggaaagga tctgccctga ccactcccct ggcaactgtta cttgcctctg 1150  
cgcctcaggg gtccccttct gcaccgctgg cttccactcc aagaagggtgg 1200  
accaggggtct gcaagttcaa cgggtcatagc tgtccctcca ggccccaacc 1250  
ttgcctcacc actcccggcc ctagtctctg cacctcctta ggccctgcct 1300  
ctggggtcag accccaacct agtcaagggg attctcctgc tcttaactcg 1350  
atgacttggg gtcctctgct ctcccagga agatgctctg caggaaaata 1400  
aaagtcagcc tttttctaaa aaaaa 1425

<210> 207

<211> 262

<212> PRT

<213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe	1	5	10	15
Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser	20	25	30	
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp	35	40	45	
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu	50	55	60	
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Phe	Val	Gly	65	70	75		
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser	80	85	90	
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr	95	100	105	
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro	110	115	120	
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr	125	130	135	

Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu	140	145	150
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met	155	160	165
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro	170	175	180
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu	185	190	195
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val	200	205	210
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr	215	220	225
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg	230	235	240
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg	245	250	255
Pro	Gln	Asp	Gly	Glu	Ala	Glu									260		

<210> 208  
 <211> 2095  
 <212> DNA  
 <213> Homo sapiens

<400> 208  
 ccgagcacag gagattgcct gcgtttagga ggtggctgcg ttgtgggaaa 50  
 agctatcaag gaagaaattg ccaaaccatg tctttttttc tgttttcaga 100  
 gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150  
 caacaaaaaa cttaagcttt aatttcatct ggaattccac agttttctta 200  
 gctccctgga cccggttgac ctgttggtctc ttcccgctgg ctgctctatc 250  
 acgtggtgct ctccgactac tcaccccgag tgtaaagaac cttcggctcg 300  
 cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350  
 gagtaggatg tcaactgagat ccctcaaagt gagcctcctg ctgctgtcac 400  
 tcttgagttt ctttgtgatg tggtaacctca gccttcccca ctacaatgtg 450  
 atagaacgcg tgaactggat gtacttctat gagtatgagc cgatttacag 500  
 acaagacttt cacttcacac ttcgagagca ttcaaactgc tctcatcaaa 550  
 atccatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600  
 aggcaggcca ttagagttac ttgggggtgaa aaaaagtctt ggtggggata 650

tgagggttctt acatTTTTct tattaggcca agaggctgaa aaggaagaca 700  
 aaatgttggc attgtcctta gaggatgaac accttcttta tggtagacata 750  
 atccgacaag atttttttaga cacatataat aacctgacct tgaaaacccat 800  
 tatggcattc aggtgggtaa ctgagttttg cccaatgcc aagtacgtaa 850  
 tgaagacaga cactgatgtt ttcataata ctggcaattt agtgaagtat 900  
 cttttaaac taaaccactc agagaagttt ttcacaggtt atcctctaata 950  
 tgataattat tcctatagag gattttacca aaaaacccat atttcttacc 1000  
 aggagtatcc tttcaagggtg ttccctccat actgcagtgg gttgggttat 1050  
 ataatgtcca gagatttggg gccaaaggatc tatgaaatga tgggtcacgt 1100  
 aaaacccatc aagtttgaag atgtttatgt cgggatctgt ttgaatttat 1150  
 taaaagtga cttcatatt ccagaagaca caaatctttt ctttctatat 1200  
 agaatccatt tggatgtctg tcaactgaga cgtgtgattg cagcccatgg 1250  
 cttttcttcc aaggagatca tcactttttg gcaggtcatg ctaaggaaca 1300  
 ccacatgcc ttattaactt cacattctac aaaaagccta gaaggacagg 1350  
 ataccttggtg gaaagtgtta aataaagtag gtactgtgga aaattcatgg 1400  
 ggaggtcagt gtgctggctt aactgaact gaaactcatg aaaaaccag 1450  
 actggagact ggaggggttac acttgatgatt tattagtcag gcccttcaaa 1500  
 gatgatatgt ggaggaatta aatataaagg aattggaggt ttttgctaaa 1550  
 gaaattaata ggaccaaaca atttgacat gtcattctgt agactagaat 1600  
 ttcttaaaag ggtgttactg agttataagc tcactaggct gtaaaaacaa 1650  
 aacaatgtag agttttattt attgaacaat gtagtcactt gaaggttttg 1700  
 tgtatatctt atgtggatta ccaatttaaa aatatatgta gttctgtgtc 1750  
 aaaaaacttc ttcactgaag ttatactgaa caaaatttta cctgtttttg 1800  
 gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850  
 tttaaaatta cttcaacttt gtgtttttta atgttttgac gatttcaata 1900  
 caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950  
 tacttaactg atcagtttat tattgatata tcactccatt aatgtaaagt 2000  
 cataggtcat tattgcatat cagtaatctc ttggactttg ttaaatattt 2050  
 tactgtggta atatagagaa gaattaaagc aagaaaatct gaaaa 2095

[illegible]

Met	Ala	Ser	Ala	Leu	Trp	Thr	Val	Leu	Pro	Ser	Arg	Met	Ser	Leu
1				5					10					15
Arg	Ser	Leu	Lys	Trp	Ser	Leu	Leu	Leu	Leu	Ser	Leu	Leu	Ser	Phe
				20					25					30
Phe	Val	Met	Trp	Tyr	Leu	Ser	Leu	Pro	His	Tyr	Asn	Val	Ile	Glu
				35					40					45
Arg	Val	Asn	Trp	Met	Tyr	Phe	Tyr	Glu	Tyr	Glu	Pro	Ile	Tyr	Arg
				50					55					60
Gln	Asp	Phe	His	Phe	Thr	Leu	Arg	Glu	His	Ser	Asn	Cys	Ser	His
				65					70					75
Gln	Asn	Pro	Phe	Leu	Val	Ile	Leu	Val	Thr	Ser	His	Pro	Ser	Asp
				80					85					90
Val	Lys	Ala	Arg	Gln	Ala	Ile	Arg	Val	Thr	Trp	Gly	Glu	Lys	Lys
				95					100					105
Ser	Trp	Trp	Gly	Tyr	Glu	Val	Leu	Thr	Phe	Phe	Leu	Leu	Gly	Gln
				110					115					120
Glu	Ala	Glu	Lys	Glu	Asp	Lys	Met	Leu	Ala	Leu	Ser	Leu	Glu	Asp
				125					130					135
Glu	His	Leu	Leu	Tyr	Gly	Asp	Ile	Ile	Arg	Gln	Asp	Phe	Leu	Asp
				140					145					150
Thr	Tyr	Asn	Asn	Leu	Thr	Leu	Lys	Thr	Ile	Met	Ala	Phe	Arg	Trp
				155					160					165
Val	Thr	Glu	Phe	Cys	Pro	Asn	Ala	Lys	Tyr	Val	Met	Lys	Thr	Asp
				170					175					180
Thr	Asp	Val	Phe	Ile	Asn	Thr	Gly	Asn	Leu	Val	Lys	Tyr	Leu	Leu
				185					190					195
Asn	Leu	Asn	His	Ser	Glu	Lys	Phe	Phe	Thr	Gly	Tyr	Pro	Leu	Ile
				200					205					210
Asp	Asn	Tyr	Ser	Tyr	Arg	Gly	Phe	Tyr	Gln	Lys	Thr	His	Ile	Ser
				215					220					225
Tyr	Gln	Glu	Tyr	Pro	Phe	Lys	Val	Phe	Pro	Pro	Tyr	Cys	Ser	Gly
				230					235					240
Leu	Gly	Tyr	Ile	Met	Ser	Arg	Asp	Leu	Val	Pro	Arg	Ile	Tyr	Glu
				245					250					255
Met	Met	Gly	His	Val	Lys	Pro	Ile	Lys	Phe	Glu	Asp	Val	Tyr	Val

	260		265		270
Gly Ile Cys Leu Asn Leu Leu Lys Val Asn Ile His Ile Pro Glu					
	275		280		285
Asp Thr Asn Leu Phe Phe Leu Tyr Arg Ile His Leu Asp Val Cys					
	290		295		300
Gln Leu Arg Arg Val Ile Ala Ala His Gly Phe Ser Ser Lys Glu					
	305		310		315
Ile Ile Thr Phe Trp Gln Val Met Leu Arg Asn Thr Thr Cys His					
	320		325		330

Tyr

<210> 210  
 <211> 745  
 <212> DNA  
 <213> Homo sapiens

<400> 210  
 cctctgtcca ctgctttcgt gaagacaaga tgaagttcac aattgtcttt 50  
 gctggacttc ttggagtctt tctagctcct gccctagcta actataatat 100  
 caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150  
 gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
 gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250  
 actctttcaa aagaagacat gcattgtgca caaaatgaac aaggaagtca 300  
 tgccctccat tcaatccctt gatgcactgg tcaaggaaaa gaagcttcag 350  
 ggtaagggac caggaggacc acctcccaag ggctgatgt actcagtcaa 400  
 cccaaacaaa gtcgatgacc tgagcaagtt cggaaaaaac attgcaaaca 450  
 tgtgtcgtgg gattccaaca tacatggctg aggagatgca agaggcaagc 500  
 ctgttttttt actcaggaac gtgctacacg accagtgtac tatggattgt 550  
 ggacatttcc ttctgtggag acacggtgga gaactaaaca attttttaaa 600  
 gccactatgg atttagtcat ctgaatatgc tgtgcagaaa aaatatgggc 650  
 tccagtgggt tttaccatgt cattctgaaa tttttctcta ctagttatgt 700  
 ttgatttctt taagtttcaa taaaatcatt tagcattgaa aaaaa 745

<210> 211  
 <211> 185  
 <212> PRT  
 <213> Homo sapiens

<400> 211  
Met Lys Phe Thr Ile Val Phe Ala Gly Leu Leu Gly Val Phe Leu  
1 5 10 15  
Ala Pro Ala Leu Ala Asn Tyr Asn Ile Asn Val Asn Asp Asp Asn  
20 25 30  
Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
185

<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
catttctgaa actaatcgtg tcagaattga ctttgaaaag cattgctttt 50  
tacagaagta tattaacttt ttaggagtaa tttctagttt ggattgtaat 100  
atgaaataat ttaaaagggc ttcgctcata tataggaaaa tcgcatatgg 150  
tcctagtatt aaattcttat tgcttactga tttttttgag ttaagagttg 200  
ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250  
ataaagtaga ttgagtctcc aattttatgt aagcttcaga agaactgggtt 300

tgtttacatg caagcttata gttgaaatat ttttcaggaa ttacatgaat 350  
 gacagtcttc gaaccaatgt gtttggtcga tttcaaccag agactatagc 400  
 atgtgcttgc atctaccttg cagctagagc acttcagatt ccgttgccaa 450  
 ctcgccccca ttggtttctt ctttttggtg ctacagaaga ggaaatccag 500  
 gaaatctgca tagaaacact taggctttat accagaaaaa agccaaacta 550  
 tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc ttacaagaag 600  
 ccaaattaaa agcaaagggg ttgaatccgg atggaactcc agccctttca 650  
 accctgggtg gatTTTTctcc agcctccaag ccatcatcac caagagaagt 700  
 aaaagctgaa gagaaatcac caatctccat taatgtgaag acagtcaaaa 750  
 aagaacctga ggatagacaa caggcttcca aaagccctta caatggtgta 800  
 agaaaagaca gcaagagaag tagaaatagc agaagtgcaa gtcgatcgag 850  
 gtcaagaaca cgatcacgtt ctagatcaca tactccaaga agacactata 900  
 ataataggcg gagtcgatct ggaacataca gtcgagatc aagaagcagg 950  
 tcccgcagtc acagtgaaag ccctcgaaga catcataatc atggttctcc 1000  
 tcaccttaag gccaaacata ccagagatga tttaaaaagt tcaaacagac 1050  
 atggtcataa aaggaaaaaa tctcgttctc gatctcagag caagtctcgg 1100  
 gatcactcag atgcagccaa gaaacacagg catgaaaggg gacatcatag 1150  
 ggacaggcgt gaacgatctc gtccttttga gaggtcccat aaaagcaagc 1200  
 accatggtgg cagtcgctca ggacatggca ggcacaggcg ctgactttct 1250  
 cttcctttga gcctgcatca gttcttggtt ttgcctatct acagtgtgat 1300  
 gtatggactc aatcaaaaaac attaaacgca aactgattag gatttgattt 1350  
 cttgaaaccc tctaggtctc tagaactctg aggacagttt cttttgaaaa 1400  
 gaactatggt aatttttttg cacattaaaa tgccctagca gtatctaatt 1450  
 aaaaaccatg gtcagggttca attgtacttt attatagttg tgtattgttt 1500  
 attgctataa gaactggagc gtgaattctg taaaaatgta tcttattttt 1550  
 atacagataa aattgcagac actgttctat ttaagtgggt atttgtttaa 1600  
 atgatggtga atactttctt aacactgggt tgtctgcatg tgtaaagatt 1650  
 tttacaagga aataaaaatac aaatcttggt ttttctaaaa aaaaaaaaaa 1700  
 aaaagt 1706

<210> 213  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 213  
 Met Asn Asp Ser Leu Arg Thr Asn Val Phe Val Arg Phe Gln Pro  
   1                  5                  10                  15  
 Glu Thr Ile Ala Cys Ala Cys Ile Tyr Leu Ala Ala Arg Ala Leu  
                   20                  25                  30  
 Gln Ile Pro Leu Pro Thr Arg Pro His Trp Phe Leu Leu Phe Gly  
                   35                  40                  45  
 Thr Thr Glu Glu Glu Ile Gln Glu Ile Cys Ile Glu Thr Leu Arg  
                   50                  55                  60  
 Leu Tyr Thr Arg Lys Lys Pro Asn Tyr Glu Leu Leu Glu Lys Glu  
                   65                  70                  75  
 Val Glu Lys Arg Lys Val Ala Leu Gln Glu Ala Lys Leu Lys Ala  
                   80                  85                  90  
 Lys Gly Leu Asn Pro Asp Gly Thr Pro Ala Leu Ser Thr Leu Gly  
                   95                  100                  105  
 Gly Phe Ser Pro Ala Ser Lys Pro Ser Ser Pro Arg Glu Val Lys  
                   110                  115                  120  
 Ala Glu Glu Lys Ser Pro Ile Ser Ile Asn Val Lys Thr Val Lys  
                   125                  130                  135  
 Lys Glu Pro Glu Asp Arg Gln Gln Ala Ser Lys Ser Pro Tyr Asn  
                   140                  145                  150  
 Gly Val Arg Lys Asp Ser Lys Arg Ser Arg Asn Ser Arg Ser Ala  
                   155                  160                  165  
 Ser Arg Ser Arg Ser Arg Thr Arg Ser Arg Ser Arg Ser His Thr  
                   170                  175                  180  
 Pro Arg Arg His Tyr Asn Asn Arg Arg Ser Arg Ser Gly Thr Tyr  
                   185                  190                  195  
 Ser Ser Arg Ser Arg Ser Arg Ser Arg Ser His Ser Glu Ser Pro  
                   200                  205                  210  
 Arg Arg His His Asn His Gly Ser Pro His Leu Lys Ala Lys His  
                   215                  220                  225  
 Thr Arg Asp Asp Leu Lys Ser Ser Asn Arg His Gly His Lys Arg  
                   230                  235                  240  
 Lys Lys Ser Arg Ser Arg Ser Gln Ser Lys Ser Arg Asp His Ser  
                   245                  250                  255  
 Asp Ala Ala Lys Lys His Arg His Glu Arg Gly His His Arg Asp





ccaccctcat gcacaggctg gcgccacact gctccttcgc gcgctggctg 150  
 ctctgtaacg gcagtttggt ccgatacaag caccctgtctg aggaggagct 200  
 tcgggccctg gcggggaagc cgaggcccag aggcaggaaa gagcgggtggg 250  
 ccaatggcct tagtgaggag aagccactgt ctgtgccccg agatgccccg 300  
 ttccagctgg agacctgccc cctcacgacc gtggatgccc tggtcctgcg 350  
 cttcttcctg gagtaccagt ggtttggtga ctttgctgtg tactcgggcg 400  
 gcgtgtacct cttcacagag gcctactact acatgctggg accagccaag 450  
 gagactaaca ttgctgtggt ctgggtgcctg ctcacgggtga ctttctccat 500  
 caagatgttc ctgacagtga cacggctgta cttcagcgcc gaggaggggg 550  
 gtgagcgctc tgtctgcctc acctttgcct tcctcttctt gctgctggcc 600  
 atgctgggtgc aagtgggtgc ggaggagacc ctcgagctgg gcctggagcc 650  
 tggctctggc agcatgacct agaacttaga gccacttctg aagaagcagg 700  
 gctgggactg ggcgcttctt gtggccaagc tggctatccg cgtgggactg 750  
 gcagtgggtg gctctgtgct ggggtgcctc ctcaccttcc caggcctgcg 800  
 gctggcccag acccaccggg acgcactgac catgtcggag gacagacca 850  
 tgctgcagtt cctcctgcac accagcttcc tgtctcccct gttcatcctg 900  
 tggctctgga caaagcccat tgcacgggac ttctgcacc agccgccgtt 950  
 tggggagacg cgtttctccc tgctgtccga ttctgcctc gactctgggc 1000  
 gcctctggtt gctgggtgtg ctgtgcctgc tgcggctggc ggtgaccgg 1050  
 cccacactgc aggcctacct gtgcctggcc aaggcccggg tggagcagct 1100  
 gcgaaggagg gctggccgca tcgaagcccg tgaaatccag cagaggggtg 1150  
 tccgagtcta ctgctatgtg accgtggtga gcttgagta cctgacgccg 1200  
 ctcatcctca ccctcaactg cacacttctg ctcaagacgc tgggaggcta 1250  
 ttctggggc ctgggcccag ctctctact atccccgac ccatcctcag 1300  
 ccagcgctgc ccccatcgcc tctggggagg acgaagtcca gcagactgca 1350  
 gcgcggattg ccggggccct ggggtggcctg cttactcccc tcttctccg 1400  
 tggcgctctg gcctacctca tctgggtggac ggctgcctgc cagctgctcg 1450  
 ccagcctttt cggcctctac ttccaccagc acttggcagg ctctagctg 1500  
 cctgcagacc ctctggggc cctgaggtct gttcctgggg cagcgggaca 1550

ctagcctgcc ccctctgttt gcgccccgt gtccccagct gcaaggtggg 1600  
gccggactcc ccggcgttcc cttcaccaca gtgcctgacc cgcgggcccc 1650  
cttggaagcc gagtttctgc ctcagaactg tctctcctgg gccagcagc 1700  
atgagggtcc cgaggccatt gtctccgaag cgtatgtgcc aggtttgagt 1750  
ggcgaggggtg atgctggctg ctcttctgaa caaataaagg agcatgccga 1800  
tttttaa 1807

<210> 216  
<211> 479  
<212> PRT  
<213> Homo sapiens

<400> 216  
Met Ala Val Leu Gly Val Gln Leu Val Val Thr Leu Leu Thr Ala  
1 5 10 15  
Thr Leu Met His Arg Leu Ala Pro His Cys Ser Phe Ala Arg Trp  
20 25 30  
Leu Leu Cys Asn Gly Ser Leu Phe Arg Tyr Lys His Pro Ser Glu  
35 40 45  
Glu Glu Leu Arg Ala Leu Ala Gly Lys Pro Arg Pro Arg Gly Arg  
50 55 60  
Lys Glu Arg Trp Ala Asn Gly Leu Ser Glu Glu Lys Pro Leu Ser  
65 70 75  
Val Pro Arg Asp Ala Pro Phe Gln Leu Glu Thr Cys Pro Leu Thr  
80 85 90  
Thr Val Asp Ala Leu Val Leu Arg Phe Phe Leu Glu Tyr Gln Trp  
95 100 105  
Phe Val Asp Phe Ala Val Tyr Ser Gly Gly Val Tyr Leu Phe Thr  
110 115 120  
Glu Ala Tyr Tyr Tyr Met Leu Gly Pro Ala Lys Glu Thr Asn Ile  
125 130 135  
Ala Val Phe Trp Cys Leu Leu Thr Val Thr Phe Ser Ile Lys Met  
140 145 150  
Phe Leu Thr Val Thr Arg Leu Tyr Phe Ser Ala Glu Glu Gly Gly  
155 160 165  
Glu Arg Ser Val Cys Leu Thr Phe Ala Phe Leu Phe Leu Leu Leu  
170 175 180  
Ala Met Leu Val Gln Val Val Arg Glu Glu Thr Leu Glu Leu Gly  
185 190 195  
Leu Glu Pro Gly Leu Ala Ser Met Thr Gln Asn Leu Glu Pro Leu

	200		205		210
Leu Lys Lys Gln Gly Trp Asp Trp Ala	215	Leu Pro Val Ala Lys Leu	220		225
Ala Ile Arg Val Gly Leu Ala Val Val	230	Gly Ser Val Leu Gly Ala	235		240
Phe Leu Thr Phe Pro Gly Leu Arg Leu	245	Ala Gln Thr His Arg Asp	250		255
Ala Leu Thr Met Ser Glu Asp Arg Pro	260	Met Leu Gln Phe Leu Leu	265		270
His Thr Ser Phe Leu Ser Pro Leu Phe	275	Ile Leu Trp Leu Trp Thr	280		285
Lys Pro Ile Ala Arg Asp Phe Leu His	290	Gln Pro Pro Phe Gly Glu	295		300
Thr Arg Phe Ser Leu Leu Ser Asp Ser	305	Ala Phe Asp Ser Gly Arg	310		315
Leu Trp Leu Leu Val Val Leu Cys Leu	320	Leu Arg Leu Ala Val Thr	325		330
Arg Pro His Leu Gln Ala Tyr Leu Cys	335	Leu Ala Lys Ala Arg Val	340		345
Glu Gln Leu Arg Arg Glu Ala Gly Arg	350	Ile Glu Ala Arg Glu Ile	355		360
Gln Gln Arg Val Val Arg Val Tyr Cys	365	Tyr Val Thr Val Val Ser	370		375
Leu Gln Tyr Leu Thr Pro Leu Ile Leu	380	Thr Leu Asn Cys Thr Leu	385		390
Leu Leu Lys Thr Leu Gly Gly Tyr Ser	395	Trp Gly Leu Gly Pro Ala	400		405
Pro Leu Leu Ser Pro Asp Pro Ser Ser	410	Ala Ser Ala Ala Pro Ile	415		420
Gly Ser Gly Glu Asp Glu Val Gln Gln	425	Thr Ala Ala Arg Ile Ala	430		435
Gly Ala Leu Gly Gly Leu Leu Thr Pro	440	Leu Phe Leu Arg Gly Val	445		450
Leu Ala Tyr Leu Ile Trp Trp Thr Ala	455	Ala Cys Gln Leu Leu Ala	460		465
Ser Leu Phe Gly Leu Tyr Phe His Gln	470	His Leu Ala Gly Ser	475		

&lt;210&gt; 217

&lt;211&gt; 574

<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 5, 146  
<223> unknown base

<400> 217  
cgttngcacg cgtcaatggc ggtcctcggg gtacagctgg tggtagaccct 50  
gctcactgcc accctcatgc acaggctggc gccacactgc tccttcgcgc 100  
gctggctgct ctgtaacggc agtttggtcc gatacaagca cccgtnttga 150  
ggaggagctt cgggccctgg cggggaagcc gagggccaga ggcaggaaag 200  
agcggtagggc caatggcctt agtgaggaga agccactgtc tgtgccccga 250  
gatgccccgt tccagctgga gacctgcccc ctcacgaccg tggatgccct 300  
ggtcctgcgc ttcttcctgg agtaccagtg gtttgtaggac ttgctgtgt 350  
actcgggcgg cgtgtacctc ttcacagagg cctactacta catgctggga 400  
ccagccaagg agactaacat tgctgtgttc tggtagcctgc tcacagtgc 450  
cttctccatc aagatgttcc tgacagtgc acggctgtac ttcagcgccg 500  
aggagggggg tgagcgtct gtctgctca cctttgctt cctcttctg 550  
ctgctggcca tgctggtgca agcg 574

<210> 218  
<211> 2571  
<212> DNA  
<213> Homo sapiens

<400> 218  
ggttcctaca tcctctcatc tgagaatcag agagcataat cttcttacgg 50  
gcccgtgatt tattaacgtg gcttaatctg aaggttctca gtcaaattct 100  
ttgtgatcta ctgattgtgg gggcatggca aggtttgctt aaaggagctt 150  
ggctggtttg ggcccttgta gctgacagaa ggtggccagg gagaatgcag 200  
cacactgctc ggagaatgaa ggcgcttctg ttgctggtct tgccctggct 250  
cagtcctgct aactacattg acaatgtggg caacctgcac ttctgtatt 300  
cagaactctg taaaggtgcc tcccactacg gcctgaccaa agataggaag 350  
aggcgctcac aagatggctg tccagacggc tgtgagagcc tcacagccac 400  
ggctccctcc ccagaggttt ctgcagctgc caccatctcc ttaatgacag 450  
acgagcctgg cctagacaac cctgcctacg tgcctcggc agaggacggg 500

cagccagcaa tcagcccagt ggactctggc cggagcaacc gaactagggc 550  
acggcccttt gagagatcca ctattagaag cagatcattt aaaaaataa 600  
atcgagcttt gagtgttctt cgaaggacaa agagcgggag tgcagttgcc 650  
aaccatgccg accagggcag ggaaaaattct gaaaacacca ctgcccctga 700  
agtctttcca aggttgtagc acctgattcc agatggtaga attaccagca 750  
tcaagatcaa tcgagtagat cccagtgaag gcctctctat taggctgggtg 800  
ggaggttagcg aaaccccact ggtccatata attatccaac acatttatcg 850  
tgatgggggtg atcgccagag acggccgggt actgccagga gacatcattc 900  
taaaggtaaa cgggatggac atcagcaatg tccctcacia ctacgctgtg 950  
cgtctcctgc ggcagccctg ccagggtgctg tggctgactg tgatgcgtga 1000  
acagaagtgc cgcagcagga acaatggaca ggccccggat gcctacagac 1050  
cccagatga cagctttcat gtgattctca aaaaaagtag ccccgaggag 1100  
cagcttgga taaaactggg gcgcaagggt gatgagcctg gggttttcat 1150  
cttcaatgtg ctggatggcg gtgtggcata tcgacatggg cagcttgagg 1200  
agaatgaccg tgtgttagcc atcaatggac atgatcttcg atatggcagc 1250  
ccagaaaagt cggtcatct gattcaggcc agtgaaagac gtgttcacct 1300  
cgtcgtgtcc cgccagggtc ggcagcggag ccctgacatc tttcaggaag 1350  
ccggctggaa cagcaatggc agctgggtccc cagggccagg ggagaggagc 1400  
aacactccca agcccccca tcctacaatt acttgtcatg agaagggtgg 1450  
aaatatccaa aaagaccccg gtgaatctct cgcatgacc gtcgcagggg 1500  
gagcatcaca tagagaatgg gatttgctta tctatgtcat cagtgttgag 1550  
cccgaggag tcataagcag agatggaaga ataaaaacag gtgacatttt 1600  
gttgaatgtg gatgggggtc aactgacaga ggtcagccgg agtgaggcag 1650  
tggcattatt gaaaagaaca tcctcctcga tagtactcaa agctttggaa 1700  
gtcaaagagt atgagcccca ggaagactgc agcagcccag cagccctgga 1750  
ctccaaccac aacatggccc caccagtgga ctgggtccca tcctgggtca 1800  
tgtggctgga attaccacgg tgcttgata actgtaaaga tattgtatta 1850  
cgaagaaaca cagctggaag tctgggcttc tgcattgtag gaggttatga 1900  
agaatacaat ggaaacaaac cttttttcat caaatccatt gttgaaggaa 1950

caccagcata caatgatgga agaattagat gtggtgatat tcttcttgct 2000  
gtcaatggta gaagtacatc aggaatgata catgcttgct tggcaagact 2050  
gctgaaagaa cttaaaggaa gaattactct aactattggt tcttggcctg 2100  
gcactttttt atagaatcaa tgatgggtca gagggaaaaca gaaaaatcac 2150  
aaataggcta agaagttgaa acactatatt tatcttggtca gtttttatat 2200  
ttaaagaaaag aatacattgt aaaaatgtca ggaaaagtat gatcatctaa 2250  
tgaaagccag ttacacctca gaaaatatga ttccaaaaaa attaaaacta 2300  
ctagtttttt ttcagtgtgg aggatttctc attactctac aacattgttt 2350  
atattttttt tattcaataa aaagccctaa aacaactaaa atgattgatt 2400  
tgtatacccc actgaattca agctgattta aatttaaaat ttggtatatg 2450  
ctgaagtctg ccaaggggtac attatggcca tttttaattt acagctaaaa 2500  
tattttttta aatgcattgc tgagaaacgt tgctttcatc aaacaagaat 2550  
aaatattttt cagaagttaa a 2571

<210> 219  
<211> 632  
<212> PRT  
<213> Homo sapiens

<400> 219  
Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala  
1 5 10 15  
Asn Tyr Ile Asp Asn Val Gly Asn Leu His Phe Leu Tyr Ser Glu  
20 25 30  
Leu Cys Lys Gly Ala Ser His Tyr Gly Leu Thr Lys Asp Arg Lys  
35 40 45  
Arg Arg Ser Gln Asp Gly Cys Pro Asp Gly Cys Ala Ser Leu Thr  
50 55 60  
Ala Thr Ala Pro Ser Pro Glu Val Ser Ala Ala Ala Thr Ile Ser  
65 70 75  
Leu Met Thr Asp Glu Pro Gly Leu Asp Asn Pro Ala Tyr Val Ser  
80 85 90  
Ser Ala Glu Asp Gly Gln Pro Ala Ile Ser Pro Val Asp Ser Gly  
95 100 105  
Arg Ser Asn Arg Thr Arg Ala Arg Pro Phe Glu Arg Ser Thr Ile  
110 115 120  
Arg Ser Arg Ser Phe Lys Lys Ile Asn Arg Ala Leu Ser Val Leu  
125 130 135

Arg	Arg	Thr	Lys	Ser	Gly	Ser	Ala	Val	Ala	Asn	His	Ala	Asp	Gln	
				140					145					150	
Gly	Arg	Glu	Asn	Ser	Glu	Asn	Thr	Thr	Ala	Pro	Glu	Val	Phe	Pro	
				155					160					165	
Arg	Leu	Tyr	His	Leu	Ile	Pro	Asp	Gly	Glu	Ile	Thr	Ser	Ile	Lys	
				170					175					180	
Ile	Asn	Arg	Val	Asp	Pro	Ser	Glu	Ser	Leu	Ser	Ile	Arg	Leu	Val	
				185					190					195	
Gly	Gly	Ser	Glu	Thr	Pro	Leu	Val	His	Ile	Ile	Ile	Gln	His	Ile	
				200					205					210	
Tyr	Arg	Asp	Gly	Val	Ile	Ala	Arg	Asp	Gly	Arg	Leu	Leu	Pro	Gly	
				215					220					225	
Asp	Ile	Ile	Leu	Lys	Val	Asn	Gly	Met	Asp	Ile	Ser	Asn	Val	Pro	
				230					235					240	
His	Asn	Tyr	Ala	Val	Arg	Leu	Leu	Arg	Gln	Pro	Cys	Gln	Val	Leu	
				245					250					255	
Trp	Leu	Thr	Val	Met	Arg	Glu	Gln	Lys	Phe	Arg	Ser	Arg	Asn	Asn	
				260					265					270	
Gly	Gln	Ala	Pro	Asp	Ala	Tyr	Arg	Pro	Arg	Asp	Asp	Ser	Phe	His	
				275					280					285	
Val	Ile	Leu	Asn	Lys	Ser	Ser	Pro	Glu	Glu	Gln	Leu	Gly	Ile	Lys	
				290					295					300	
Leu	Val	Arg	Lys	Val	Asp	Glu	Pro	Gly	Val	Phe	Ile	Phe	Asn	Val	
				305					310					315	
Leu	Asp	Gly	Gly	Val	Ala	Tyr	Arg	His	Gly	Gln	Leu	Glu	Glu	Asn	
				320					325					330	
Asp	Arg	Val	Leu	Ala	Ile	Asn	Gly	His	Asp	Leu	Arg	Tyr	Gly	Ser	
				335					340					345	
Pro	Glu	Ser	Ala	Ala	His	Leu	Ile	Gln	Ala	Ser	Glu	Arg	Arg	Val	
				350					355					360	
His	Leu	Val	Val	Ser	Arg	Gln	Val	Arg	Gln	Arg	Ser	Pro	Asp	Ile	
				365					370					375	
Phe	Gln	Glu	Ala	Gly	Trp	Asn	Ser	Asn	Gly	Ser	Trp	Ser	Pro	Gly	
				380					385					390	
Pro	Gly	Glu	Arg	Ser	Asn	Thr	Pro	Lys	Pro	Leu	His	Pro	Thr	Ile	
				395					400					405	
Thr	Cys	His	Glu	Lys	Val	Val	Asn	Ile	Gln	Lys	Asp	Pro	Gly	Glu	
				410					415					420	
Ser	Leu	Gly	Met	Thr	Val	Ala	Gly	Gly	Ala	Ser	His	Arg	Glu	Trp	



									425										430										435																					
Asp	Leu	Pro	Ile	Tyr	Val	Ile	Ser	Val	Glu	Pro	Gly	Gly	Val	Ile										440										445										450						
Ser	Arg	Asp	Gly	Arg	Ile	Lys	Thr	Gly	Asp	Ile	Leu	Leu	Asn	Val										455										460										465						
Asp	Gly	Val	Glu	Leu	Thr	Glu	Val	Ser	Arg	Ser	Glu	Ala	Val	Ala										470										475										480						
Leu	Leu	Lys	Arg	Thr	Ser	Ser	Ser	Ile	Val	Leu	Lys	Ala	Leu	Glu										485										490										495						
Val	Lys	Glu	Tyr	Glu	Pro	Gln	Glu	Asp	Cys	Ser	Ser	Pro	Ala	Ala										500										505										510						
Leu	Asp	Ser	Asn	His	Asn	Met	Ala	Pro	Pro	Ser	Asp	Trp	Ser	Pro										515										520										525						
Ser	Trp	Val	Met	Trp	Leu	Glu	Leu	Pro	Arg	Cys	Leu	Tyr	Asn	Cys										530										535										540						
Lys	Asp	Ile	Val	Leu	Arg	Arg	Asn	Thr	Ala	Gly	Ser	Leu	Gly	Phe										545										550										555						
Cys	Ile	Val	Gly	Gly	Tyr	Glu	Glu	Tyr	Asn	Gly	Asn	Lys	Pro	Phe										560										565										570						
Phe	Ile	Lys	Ser	Ile	Val	Glu	Gly	Thr	Pro	Ala	Tyr	Asn	Asp	Gly										575										580										585						
Arg	Ile	Arg	Cys	Gly	Asp	Ile	Leu	Leu	Ala	Val	Asn	Gly	Arg	Ser										590										595										600						
Thr	Ser	Gly	Met	Ile	His	Ala	Cys	Leu	Ala	Arg	Leu	Leu	Lys	Glu										605										610										615						
Leu	Lys	Gly	Arg	Ile	Thr	Leu	Thr	Ile	Val	Ser	Trp	Pro	Gly	Thr										620										625										630						
Phe	Leu																																																	

```
<210> 220
<211> 773
<212> DNA
<213> Homo sapiens
```

<211> 773

<212> DNA

<213> Homo sapiens

<400> 220

ccaaagtgat catttgaaaa agagatatcc acatcttcaa gcccatataa 50

aggatagaag ctgcacaggg cagctttact tactccagca ccttcctctc 100

ccaggcaaat ggtgctgacc atctttggga tacaatctca tggatacgag 150

gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200

agtgacaatt gataatgaaa aaaataccgc catcgtaac atccatgcag 250  
 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
 tccaggggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
 gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400  
 ctctggacaa catgttctcc aacaaatata cctgggtcaa gtacaaccct 450  
 ctggagtctc tgatcaaaga cgtggattgg ttcttgcttg ggtcacccat 500  
 tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550  
 acacacataa tgtcgggtgct ggaggctgtg caaaggctgg gctcctgggc 600  
 atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650  
 ctcttgtttt atcttttcaa agaaatacat ccttggttta cactcaaaag 700  
 tcaaattaaa ttctttccca atgccccaac taattttgag attcagtcag 750  
 aaaatataaa tgctgtattt ata 773

<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
 1 5 10 15  
 Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
 20 25 30  
 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
 35 40 45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
 50 55 60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
 65 70 75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
 80 85 90  
 Ile Pro Pro Leu Asn Asn Leu Gln Trp Tyr Ile Tyr Glu Lys Gln  
 95 100 105  
 Ala Leu Asp Asn Met Phe Ser Asn Lys Tyr Thr Trp Val Lys Tyr  
 110 115 120  
 Asn Pro Leu Glu Ser Leu Ile Lys Asp Val Asp Trp Phe Leu Leu  
 125 130 135  
 Gly Ser Pro Ile Glu Lys Leu Cys Lys His Ile Pro Leu Tyr Lys

	140		145		150
Gly Glu Val Val	Glu Asn Thr His Asn Val Gly Ala Gly Gly Cys				
	155		160		165
Ala Lys Ala Gly	Leu Leu Gly Ile Leu Gly Ile Ser Ile Cys Ala				
	170		175		180
Asp Ile His Val					

<210> 222  
 <211> 992  
 <212> DNA  
 <213> Homo sapiens

<400> 222  
 ggcacgagcc aggaactagg aggttctcac tgcccagca gaggcctac 50  
 acccaccgag gcatggggct ccctgggctg ttctgcttgg ccgtgctggc 100  
 tgccagcagc ttctccaagg cacgggagga agaaattacc cctgtggtct 150  
 ccattgccta caaagtcctg gaagttttcc ccaaaggccg ctgggtgctc 200  
 ataacctgct gtgcaccca gccaccaccg cccatcacct attccctctg 250  
 tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccacgagc 300  
 cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350  
 acctacttct gccgggcgtc ctccacctca ggtgcccattg tggacagtgc 400  
 caggctacag atgcactggg agctgtggct caagccagtg tctgagctgc 450  
 gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500  
 atctgccagg cgtcctcggg cagcccacct atcaccaaca gcctgatcgg 550  
 gaaggatggg caggtccacc tgcagcagag accatgccac aggcagcctg 600  
 ccaacttctc ctctctgccg agccagacat cggactgggt ctggtgccag 650  
 gctgcaaaca acgccaatgt ccagcacagc gccctcacag tggtgcccc 700  
 aggtggtgac cagaagatgg aggactggca gggccccctg gagagcccca 750  
 tccttgccctt gccgctctac aggagcacc gccgtctgag tgaagaggag 800  
 tttggggggg tcaggatagg gaatggggag gtcagaggac gcaaagcagc 850  
 agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900  
 ggccatcagc gtgcactgtt cgtatattgga gttcatgcaa aatgagtgtg 950  
 ttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

**SECRET**

216

<210> 224  
 <211> 1297  
 <212> DNA  
 <213> Homo sapiens

<400> 224  
 ggtccttaat ggcagcagcc gccgctacca agatccttct gtgcctcccg 50  
 cttctgctcc tgctgtccgg ctgggtcccg gctgggagag ccgaccctca 100  
 ctctctttgc tatgacatca ccgtcatccc taagttcaga cctggaccac 150  
 ggtggtgtgc ggttcaaggc caggtggatg aaaagacttt tcttcactat 200  
 gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
 aaatgtcaca acggcctgga aagcacagaa cccagtactg agagaggtgg 300  
 tggacatact tacagagcaa ctgcgtgaca ttcagctgga gaattacaca 350  
 cccaaggaac ccctcacctc gcaggcaagg atgtcttgtg agcagaaagc 400  
 tgaaggacac agcagtggat cttggcagtt cagtttcgat gggcagatct 450  
 tcctcctctt tgactcagag aagagaatgt ggacaacggt tcatcctgga 500  
 gccagaaaga tgaaagaaaa gtgggagaat gacaagggtg tggccatgtc 550  
 cttccattac ttctcaatgg gagactgtat aggatggctt gaggacttct 600  
 tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
 atgtcctcag gcacaacca actcagggcc acagccacca ccctcatcct 700  
 ttgtcgctc ctcacatccc tcccctgctt catcctccct ggcatctgag 750  
 gagagtcctt tagagtgaca ggttaaagct gataccaaaa ggctcctgtg 800  
 agcacggtct tgatcaaact cgccttctg tctggccagc tgcccacgac 850  
 ctacggtgta tgtccagtgg cctccagcag atcatgatga catcatggac 900  
 ccaatagctc attcactgcc ttgattcctt ttgccaacaa tttaccagc 950  
 agttatacct aacatattat gcaattttct cttggtgcta cctgatggaa 1000  
 ttctgcact taaagttctg gctgactaaa caagatatat cattttcttt 1050  
 cttctctttt tgtttgaaa atcaagtact tctttgaatg atgatctctt 1100  
 tcttgcaaat gatattgtca gtaaaataat cacgttagac ttcagacctc 1150  
 tggggattct ttccgtgtcc tgaaagagaa tttttaaat atttaataag 1200  
 aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
 tgatatttaa ataaagagtt ctatttccca aaaaaaaaaa aaaaaa 1297

<210> 225  
 <211> 246  
 <212> PRT  
 <213> Homo sapiens

<400> 225  
 Met Ala Ala Ala Ala Thr Lys Ile Leu Leu Cys Leu Pro Leu  
 1 5 10 15  
 Leu Leu Leu Leu Ser Gly Trp Ser Arg Ala Gly Arg Ala Asp Pro  
 20 25 30  
 His Ser Leu Cys Tyr Asp Ile Thr Val Ile Pro Lys Phe Arg Pro  
 35 40 45  
 Gly Pro Arg Trp Cys Ala Val Gln Gly Gln Val Asp Glu Lys Thr  
 50 55 60  
 Phe Leu His Tyr Asp Cys Gly Asn Lys Thr Val Thr Pro Val Ser  
 65 70 75  
 Pro Leu Gly Lys Lys Leu Asn Val Thr Thr Ala Trp Lys Ala Gln  
 80 85 90  
 Asn Pro Val Leu Arg Glu Val Val Asp Ile Leu Thr Glu Gln Leu  
 95 100 105  
 Arg Asp Ile Gln Leu Glu Asn Tyr Thr Pro Lys Glu Pro Leu Thr  
 110 115 120  
 Leu Gln Ala Arg Met Ser Cys Glu Gln Lys Ala Glu Gly His Ser  
 125 130 135  
 Ser Gly Ser Trp Gln Phe Ser Phe Asp Gly Gln Ile Phe Leu Leu  
 140 145 150  
 Phe Asp Ser Glu Lys Arg Met Trp Thr Thr Val His Pro Gly Ala  
 155 160 165  
 Arg Lys Met Lys Glu Lys Trp Glu Asn Asp Lys Val Val Ala Met  
 170 175 180  
 Ser Phe His Tyr Phe Ser Met Gly Asp Cys Ile Gly Trp Leu Glu  
 185 190 195  
 Asp Phe Leu Met Gly Met Asp Ser Thr Leu Glu Pro Ser Ala Gly  
 200 205 210  
 Ala Pro Leu Ala Met Ser Ser Gly Thr Thr Gln Leu Arg Ala Thr  
 215 220 225  
 Ala Thr Thr Leu Ile Leu Cys Cys Leu Leu Ile Ile Leu Pro Cys  
 230 235 240  
 Phe Ile Leu Pro Gly Ile  
 245

<210> 226

<211> 735  
 <212> DNA  
 <213> Homo sapiens

<400> 226  
 gggaaaagcca tttcgaaaac ccatctatac aaactatata ttttcatttc 50  
 tgctgctagc tgccttgggc ctcacaattt tcattctgtt ttctgacttt 100  
 caagttatat accgtggaat ggagttgatc ccaaccataa catcgtggag 150  
 ggttttaatt ttggtggtag ccctcaccca attctggtgt ggctttcttt 200  
 gcagaggatt ccaccttcaa aatcatgaac tctggctgtt gatcaaaaaga 250  
 gaatttggtat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
 agcagaagac tcaacctggc ctcccataaa caggacagat tattcagggtg 350  
 atggcaaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400  
 attccaaaaa gaaaactcaa attgggagggc caaccacag aacagcattt 450  
 ctggggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
 cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
 ttacctttcc tctctccatt caagcattca aagtatattt tcaatgaatt 600  
 aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
 accaatgaga gaaaaaaatg catttcctgt atcatccttt tcaataaact 700  
 gtattcattt tgaaaaaaaa aaaaaaaaaa aaaaa 735

<210> 227  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 227  
 Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
 1 5 10 15  
 Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
 20 25 30  
 Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu  
 35 40 45  
 Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
 50 55 60  
 Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
 65 70 75  
 Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
 80 85 90





tgaggggtcgg atggcagaac ttaagtgtcg gactccccct atgtcctccg 1200  
tgaagtgggtt gctgccaat gggacagtgc tcagccacgc ctcccggcac 1250  
ccaaggatct ctgtcctcaa cgacggcacc ttgaactttt cccacgtgct 1300  
gctttcagac actgggggtgt acacatgcat ggtgaccaat gttgcaggca 1350  
actccaacgc ctcggcctac ctcaatgtga gcacggctga gcttaacacc 1400  
tccaactaca gcttcttcac cacagtaaca gtggagacca cggagatctc 1450  
gcctgaggac acaacgcgaa agtacaagcc tgttcctacc acgtccactg 1500  
gttaccagcc ggcatatacc acctctacca cgggtgctcat tcagactacc 1550  
cgtgtgcccc agcaggtggc agtaccgcg acagacacca ctgacaagat 1600  
gcagaccagc ctggatgaag tcatgaagac caccaagatc atcattggct 1650  
gctttgtggc agtgactctg ctagctgccg ccatgttgat tgtcttctat 1700  
aaacttcgta agcggcacca gcagcggagt acagtcacag ccgcccggac 1750  
tgttgagata atccaggtgg acgaagacat cccagcagca acatccgcag 1800  
cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgctg 1850  
cccacaattc atgaccatat taactacaac acctacaaac cagcacatgg 1900  
ggcccactgg acagaaaaca gcctggggaa ctctctgcac cccacagtca 1950  
ccactatctc tgaaccttat ataattcaga cccataccaa ggacaaggta 2000  
caggaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
ttcttgtata tgcttatata ttaagtctat gggctgggta aaaaaacag 2150  
attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229

<211> 653

<212> PRT

<213> Homo sapiens

<400> 229

Met	Lys	Leu	Leu	Trp	Gln	Val	Thr	Val	His	His	His	Thr	Trp	Asn
1				5					10					15

Ala	Ile	Leu	Leu	Pro	Phe	Val	Tyr	Leu	Thr	Ala	Gln	Val	Trp	Ile
				20					25					30

Leu	Cys	Ala	Ala	Ile	Ala	Ala	Ala	Ala	Ser	Ala	Gly	Pro	Gln	Asn
				35					40					45

Cys	Pro	Ser	Val	Cys	Ser	Cys	Ser	Asn	Gln	Phe	Ser	Lys	Val	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

				50					55					60
Cys	Thr	Arg	Arg	Gly 65	Leu	Ser	Glu	Val	Pro 70	Gln	Gly	Ile	Pro	Ser 75
Asn	Thr	Arg	Tyr	Leu 80	Asn	Leu	Met	Glu	Asn 85	Asn	Ile	Gln	Met	Ile 90
Gln	Ala	Asp	Thr	Phe 95	Arg	His	Leu	His	His 100	Leu	Glu	Val	Leu	Gln 105
Leu	Gly	Arg	Asn	Ser 110	Ile	Arg	Gln	Ile	Glu 115	Val	Gly	Ala	Phe	Asn 120
Gly	Leu	Ala	Ser	Leu 125	Asn	Thr	Leu	Glu	Leu 130	Phe	Asp	Asn	Trp	Leu 135
Thr	Val	Ile	Pro	Ser 140	Gly	Ala	Phe	Glu	Tyr 145	Leu	Ser	Lys	Leu	Arg 150
Glu	Leu	Trp	Leu	Arg 155	Asn	Asn	Pro	Ile	Glu 160	Ser	Ile	Pro	Ser	Tyr 165
Ala	Phe	Asn	Arg	Val 170	Pro	Ser	Leu	Met	Arg 175	Leu	Asp	Leu	Gly	Glu 180
Leu	Lys	Lys	Leu	Glu 185	Tyr	Ile	Ser	Glu	Gly 190	Ala	Phe	Glu	Gly	Leu 195
Phe	Asn	Leu	Lys	Tyr 200	Leu	Asn	Leu	Gly	Met 205	Cys	Asn	Ile	Lys	Asp 210
Met	Pro	Asn	Leu	Thr 215	Pro	Leu	Val	Gly	Leu 220	Glu	Glu	Leu	Glu	Met 225
Ser	Gly	Asn	His	Phe 230	Pro	Glu	Ile	Arg	Pro 235	Gly	Ser	Phe	His	Gly 240
Leu	Ser	Ser	Leu	Lys 245	Lys	Leu	Trp	Val	Met 250	Asn	Ser	Gln	Val	Ser 255
Leu	Ile	Glu	Arg	Asn 260	Ala	Phe	Asp	Gly	Leu 265	Ala	Ser	Leu	Val	Glu 270
Leu	Asn	Leu	Ala	His 275	Asn	Asn	Leu	Ser	Ser 280	Leu	Pro	His	Asp	Leu 285
Phe	Thr	Pro	Leu	Arg 290	Tyr	Leu	Val	Glu	Leu 295	His	Leu	His	His	Asn 300
Pro	Trp	Asn	Cys	Asp 305	Cys	Asp	Ile	Leu	Trp 310	Leu	Ala	Trp	Trp	Leu 315
Arg	Glu	Tyr	Ile	Pro 320	Thr	Asn	Ser	Thr	Cys 325	Cys	Gly	Arg	Cys	His 330
Ala	Pro	Met	His	Met 335	Arg	Gly	Arg	Tyr	Leu 340	Val	Glu	Val	Asp	Gln 345

**SECRET**

645

```
<210> 230
<211> 2846
<212> DNA
<213> Homo sapiens
```

```
<400> 230
cgctcgggca ccagccgcgg caaggatgga gctggggttc tggacgcagt 50
tggggctcac ttttcttcag ctcccttctca tctcgtcctt gccaaagagag 100
tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150
tcgggagtg cgtgaatatg atcagattga gtgcgtctgc cccggaaaaga 200
gggaagtcgt ggggtatacc atcccttgct gcaggaatga ggagaatgag 250
tgtgactcct gcctgatcca cccaggttgt accatctttg aaaactgcaa 300
gagctgccga aatggctcat ggggggggtac cttggatgac ttctatgtga 350
aggggttcta ctgtgcagag tgccgagcag gctggtagcg aggagactgc 400
atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttggga 450
aagctatccc ctaaagtctc actgtgaatg gaccattcat gctaaacctg 500
ggtttgtcat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550
atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600
ccagatcatc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650
gcataggatc ctactccac gtccctcttc actccgatgg ctccaagaat 700
tttgacggtt tccatgccat ttatgaggag atcacagcat gtcctcatc 750
cccttgtttc catgacggca cgtgcgtcct tgacaaggct ggatcttaca 800
agtgtgcctg cttggcaggc tatactgggc agcgctgtga aaatctcctt 850
gaagaaagaa actgctcaga ccctgggggc ccagtcaatg ggtaccagaa 900
aataacaggg ggccctgggc ttatcaacgg acgccatgct aaaattggca 950
ccgtggtgtc tttcttttgt aacaactcct atgttcttag tggcaatgag 1000
aaaagaactt gccagcagaa tggagagtgg tcagggaaac agcccatctg 1050
cataaaaagc tgccgagaac caaagatttc agacctggtg agaaggagag 1100
ttcttccgat gcaggttcag tcaagggaga caccattaca ccagctatac 1150
tcagcggcct tcagcaagca gaaactgcag agtggcccta ccaagaagcc 1200
```

agcccttccc tttggagatc tgcccatggg ataccaacat ctgcataccc 1250  
 agctccagta tgagtgcac tcacccttct accgccgcct gggcagcagc 1300  
 aggaggacat gtctgaggac tgggaagtgg agtgggcggg caccatcctg 1350  
 catccctatc tgcgggaaaa ttgagaacat cactgctcca aagaccaag 1400  
 ggttgcgctg gccgtggcag gcagccatct acaggaggac cagcggggtg 1450  
 catgacggca gcctacacaa gggagcgtgg ttcctagtct gcagcgggtg 1500  
 cctggtgaat gagcgactg tgggtggtggc tgcccactgt gttactgacc 1550  
 tggggaaggt caccatgatc aagacagcag acctgaaagt tgttttgggg 1600  
 aaattctacc gggatgatga ccgggatgag aagaccatcc agagcctaca 1650  
 gatttctgct atcattctgc atcccaacta tgaccccatc ctgcttgatg 1700  
 ctgacatcgc catcctgaag ctccctagaca aggcccgtat cagcaccga 1750  
 gtccagccca tctgcctcgc tgccagtcgg gatctcagca cttccttcca 1800  
 ggagtccac atcactgtgg ctggctggaa tgtcctggca gacgtgagga 1850  
 gccctggctt caagaacgac aactgcgct ctgggggtgg cagtgtggtg 1900  
 gactcgctgc tgtgtgagga gcagcatgag gaccatggca tcccagtga 1950  
 tgtcactgat aacatgttct gtgccagctg ggaaccact gcccttctg 2000  
 atatctgcac tgagagaca ggaggcatcg cggctgtgtc cttcccggga 2050  
 cgagcatctc ctgagccacg ctggcatctg atgggactgg tcagctggag 2100  
 ctatgataaa acatgcagcc acaggctctc cactgccttc accaaggtgc 2150  
 tgccttttaa agactggatt gaaagaaata tgaaatgaac catgctcatg 2200  
 cactccttga gaagtgtttc tgtatatccg tctgtacgtg tgtcattgag 2250  
 tgaagcagtg tgggcctgaa gtgtgatttg gcctgtgaac ttggctgtgc 2300  
 cagggtctct gacttcaggg acaaaaactca gtgaagggtg agtagacctc 2350  
 cattgctggt aggtgatgc cgcgtccact actaggacag ccaattggaa 2400  
 gatgccaggg cttgcaagaa gtaagtttct tcaaagaaga ccatatacaa 2450  
 aacctctcca ctccactgac ctgggtggtc tccccaactt tcagttatac 2500  
 gaatgccatc agcttgacca gggaagatct gggcttcatg aggccccttt 2550  
 tgaggctctc aagttctaga gagctgcctg tgggacagcc cagggcagca 2600  
 gagctgggat gtggtgcatg cttttgtgta catggccaca gtacagtctg 2650

gtcctttttcc ttccccatct cttgtacaca ttttaataaa ataaggggttg 2700  
 gcttctgaac tacaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2800  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2846

<210> 231  
 <211> 720  
 <212> PRT  
 <213> Homo sapiens

<400> 231  
 Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln  
 1 5 10 15  
 Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
 20 25 30  
 Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
 35 40 45  
 Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
 50 55 60  
 Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
 65 70 75  
 Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
 80 85 90  
 Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
 95 100 105  
 Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
 110 115 120  
 Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
 125 130 135  
 Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
 140 145 150  
 Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
 155 160 165  
 Phe Val Met Leu Ser Leu Glu Phe Asp Tyr Met Cys Gln Tyr Asp  
 170 175 180  
 Tyr Val Glu Val Arg Asp Gly Asp Asn Arg Asp Gly Gln Ile Ile  
 185 190 195  
 Lys Arg Val Cys Gly Asn Glu Arg Pro Ala Pro Ile Gln Ser Ile  
 200 205 210  
 Gly Ser Ser Leu His Val Leu Phe His Ser Asp Gly Ser Lys Asn  
 215 220 225

Phe	Asp	Gly	Phe	His	Ala	Ile	Tyr	Glu	Glu	Ile	Thr	Ala	Cys	Ser	
				230					235					240	
Ser	Ser	Pro	Cys	Phe	His	Asp	Gly	Thr	Cys	Val	Leu	Asp	Lys	Ala	
				245					250					255	
Gly	Ser	Tyr	Lys	Cys	Ala	Cys	Leu	Ala	Gly	Tyr	Thr	Gly	Gln	Arg	
				260					265					270	
Cys	Glu	Asn	Leu	Leu	Glu	Glu	Arg	Asn	Cys	Ser	Asp	Pro	Gly	Gly	
				275					280					285	
Pro	Val	Asn	Gly	Tyr	Gln	Lys	Ile	Thr	Gly	Gly	Pro	Gly	Leu	Ile	
				290					295					300	
Asn	Gly	Arg	His	Ala	Lys	Ile	Gly	Thr	Val	Val	Ser	Phe	Phe	Cys	
				305					310					315	
Asn	Asn	Ser	Tyr	Val	Leu	Ser	Gly	Asn	Glu	Lys	Arg	Thr	Cys	Gln	
				320					325					330	
Gln	Asn	Gly	Glu	Trp	Ser	Gly	Lys	Gln	Pro	Ile	Cys	Ile	Lys	Ala	
				335					340					345	
Cys	Arg	Glu	Pro	Lys	Ile	Ser	Asp	Leu	Val	Arg	Arg	Arg	Val	Leu	
				350					355					360	
Pro	Met	Gln	Val	Gln	Ser	Arg	Glu	Thr	Pro	Leu	His	Gln	Leu	Tyr	
				365					370					375	
Ser	Ala	Ala	Phe	Ser	Lys	Gln	Lys	Leu	Gln	Ser	Ala	Pro	Thr	Lys	
				380					385					390	
Lys	Pro	Ala	Leu	Pro	Phe	Gly	Asp	Leu	Pro	Met	Gly	Tyr	Gln	His	
				395					400					405	
Leu	His	Thr	Gln	Leu	Gln	Tyr	Glu	Cys	Ile	Ser	Pro	Phe	Tyr	Arg	
				410					415					420	
Arg	Leu	Gly	Ser	Ser	Arg	Arg	Thr	Cys	Leu	Arg	Thr	Gly	Lys	Trp	
				425					430					435	
Ser	Gly	Arg	Ala	Pro	Ser	Cys	Ile	Pro	Ile	Cys	Gly	Lys	Ile	Glu	
				440					445					450	
Asn	Ile	Thr	Ala	Pro	Lys	Thr	Gln	Gly	Leu	Arg	Trp	Pro	Trp	Gln	
				455					460					465	
Ala	Ala	Ile	Tyr	Arg	Arg	Thr	Ser	Gly	Val	His	Asp	Gly	Ser	Leu	
				470					475					480	
His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn	
				485					490					495	
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly	
				500					505					510	
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly	

				515					520					525
Lys	Phe	Tyr	Arg	Asp 530	Asp	Asp	Arg	Asp	Glu 535	Lys	Thr	Ile	Gln	Ser 540
Leu	Gln	Ile	Ser	Ala 545	Ile	Ile	Leu	His	Pro 550	Asn	Tyr	Asp	Pro	Ile 555
Leu	Leu	Asp	Ala	Asp 560	Ile	Ala	Ile	Leu	Lys 565	Leu	Leu	Asp	Lys	Ala 570
Arg	Ile	Ser	Thr	Arg 575	Val	Gln	Pro	Ile	Cys 580	Leu	Ala	Ala	Ser	Arg 585
Asp	Leu	Ser	Thr	Ser 590	Phe	Gln	Glu	Ser	His 595	Ile	Thr	Val	Ala	Gly 600
Trp	Asn	Val	Leu	Ala 605	Asp	Val	Arg	Ser	Pro 610	Gly	Phe	Lys	Asn	Asp 615
Thr	Leu	Arg	Ser	Gly 620	Val	Val	Ser	Val	Val 625	Asp	Ser	Leu	Leu	Cys 630
Glu	Glu	Gln	His	Glu 635	Asp	His	Gly	Ile	Pro 640	Val	Ser	Val	Thr	Asp 645
Asn	Met	Phe	Cys	Ala 650	Ser	Trp	Glu	Pro	Thr 655	Ala	Pro	Ser	Asp	Ile 660
Cys	Thr	Ala	Glu	Thr 665	Gly	Gly	Ile	Ala	Ala 670	Val	Ser	Phe	Pro	Gly 675
Arg	Ala	Ser	Pro	Glu 680	Pro	Arg	Trp	His	Leu 685	Met	Gly	Leu	Val	Ser 690
Trp	Ser	Tyr	Asp	Lys 695	Thr	Cys	Ser	His	Arg 700	Leu	Ser	Thr	Ala	Phe 705
Thr	Lys	Val	Leu	Pro 710	Phe	Lys	Asp	Trp	Ile 715	Glu	Arg	Asn	Met	Lys 720

```
<210> 232
<211> 24
<212> DNA
<213> Artificial Sequence
```



CONFIDENTIAL

tgtcaaggac gcactgccgt catg 24

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

tgccagatc atcaagcgtg tctgtggcaa cgagcggcca gctcctatcc 50

<210> 235

<211> 1964

<212> DNA

<213> Homo sapiens

accagqcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50

agctcaactt gaagctttct tgcctgcagt gaagcagaga gatagatatt 100

attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150

caaattccga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200

gggccaccag taactacttc gtgggtgccca ttcaagagat tcctaaagca 250

aaggagttca tggctaattt ccataagacc ctcattttgg ggaagggaaa 300

aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350

cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400

gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450

ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500

ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550

catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600

ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650

atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700

gtggacctgg taccgagaa tgactttaac ctttacaagt gtgaggagca 750

tcccaagcat ctggtggttg gcaggaacag cactgggtac aggttacgtt 800

acaqtggata ttttgggggt gttactgcc taagcagaga gcagtttttc 850

aaqqtgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900

tgacctcaga ctcaggggtg agctccaaag aatgaaaatt tcccggcccc 950  
 tgcctgaagt gggtaaataat acaatggtct tccacactag agacaaaggc 1000  
 aatgaggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
 ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100  
 aacacaatcc tttatatatc aacatcacag tggatttctg gtttggtgca 1150  
 tgacctgga tcttttggtg atgtttggaa gaactgattc tttgtttgca 1200  
 ataattttgg cctagagact tcaaatagta gcacacatta agaacctgtt 1250  
 acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
 ctctggtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350  
 tcattttgat catgaggggt aaatattgta atatggatac ttgaaggact 1400  
 ttatataaaa ggatgactca aaggataaaa tgaacgctat ttgaggactc 1450  
 tggttgaagg agatttattt aaatttgaag taatatatta tgggataaaa 1500  
 ggccacagga aataagactg ctgaatgtct gagagaacca gagttgttct 1550  
 cgtccaaggt agaaaggtag gaagatacaa tactgttatt catttatcct 1600  
 gtacaatcat ctgtgaagtg gtggtgtcag gtgagaaggc gtccacaaaa 1650  
 gaggggagaa aaggcgacga atcaggacac agtgaacttg ggaatgaaga 1700  
 ggtagcagga ggggtgagtg tcggctgcaa aggcagcagt agctgagctg 1750  
 gttgcaggtg ctgatagcct tcaggggagg acctgcccag gtatgccttc 1800  
 cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
 tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
 acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
 gtgaaaaagc aaaa 1964

<210> 236  
 <211> 344  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-27  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 4-7, 220-223, 335-338  
 <223> N-glycosylation sites

<220>  
 <221> Xylose isomerase proteins  
 <222> 191-201  
 <223> Xylose isomerase proteins

<400> 236

Met	Gly	Phe	Asn	Leu	Thr	Phe	His	Leu	Ser	Tyr	Lys	Phe	Arg	Leu	
1				5					10					15	
Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr	
				20					25					30	
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys	
				35					40					45	
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly	
				50					55					60	
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp	
				65					70					75	
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu	
				80					85					90	
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn	
				95					100					105	
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala	
				110					115					120	
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys	
				125					130					135	
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg	
				140					145					150	
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly	
				155					160					165	
Lys	Lys	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu	
				170					175					180	
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val	
				185					190					195	
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu	
				200					205					210	
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg	
				215					220					225	
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg	
				230					235					240	
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly	
				245					250					255	
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln	



gccgcagttc tcgagctcca gctgcattcc ctccgcgtcc gccccacgct 100  
 tctcccgcgc cgggccccgc aatggcccag gcagtgtggt cgcgcctcgg 150  
 ccgcatactc tggtctgcct gcctcctgcc ctgggccccg gcaggggtgg 200  
 ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
 ggagcggtgg tgaccatctc ggccagcctg gtggccaagg acaacggcag 300  
 cctggccctg cccgctgacg cccacctcta ccgcttccac tggatccaca 350  
 ccccgtggt gcttactggc aagatggaga aggtctcag ctccaccatc 400  
 cgtgtggtcg gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
 tgccgtgac tgctggatgt gccagcctgt ggccaggggc tttgtggtcc 500  
 tccccatcac agagttcctc gtgggggacc ttgttgtcac ccagaacact 550  
 tccctaccct ggcccagctc ctatctcact aagaccgtcc tgaaagtctc 600  
 cttcctctc caccgaccga gcaacttct caagaccgcc ttgtttctct 650  
 acagctggga cttcgggggac gggaccaga tggtgactga agactccgtg 700  
 gtctattata actattccat catcgggacc ttcaccgtga agctcaaagt 750  
 ggtggcggag tgggaagagg tggagccgga tgccacgagg gctgtgaagc 800  
 agaagaccgg ggacttctcc gcctcgtga agctgcagga aacccttcga 850  
 ggcatccaag tggtggggcc caccctaatt cagaccttcc aaaagatgac 900  
 cgtgaccttg aacttctctg ggagccctcc tctgactgtg tgctggcgctc 950  
 tcaagcctga gtgcctcccg ctggaggaag gggagtgcc cctgtgtcc 1000  
 gtggccagca cagcgtacaa cctgaccac accttcagg accctgggga 1050  
 ctactgcttc agcatccggg ccgagaatat catcagcaag acacatcagt 1100  
 accacaagat ccaggtgtgg ccctccagaa tccagccggc tgtctttgct 1150  
 ttcccatgtg ctacacttat cactgtgatg ttggccttca tcatgtacat 1200  
 gaccctgcgg aatgccactc agcaaaagga catggtggag aaccgggagc 1250  
 caccctctgg ggtcagggtc tgctgccaga tgtgctgtgg gcctttcttg 1300  
 ctggagactc catctgagta cctggaaatt gttcgtgaga accacgggct 1350  
 gctcccgccc ctctataagt ctgtcaaac ttacaccgtg tgagcactcc 1400  
 ccctccccac cccatctcag tgttaactga ctgctgactt ggagtttcca 1450  
 gcaggggtgt gtgcaccact gaccaggagg ggttcatttg cgtggggctg 1500

ttggcctgga tcatccatcc atctgtacag ttcagccact gccacaagcc 1550  
 cctccctctc tgtcaccctt gacccagcc attcaccat ctgtacagtc 1600  
 cagccactga cataagcccc actcgggttac cacccttg accccctacc 1650  
 tttgaagagg cttcgtgcag gactttgatg cttgggggtgt tccgtgttga 1700  
 ctctaggtg ggcctggctg cccactgccc attcctctca tattggcaca 1750  
 tctgctgtcc attgggggtt ctgagtttc tccccagac agccctacct 1800  
 gtgccagaga gctagaaaga aggtcataaa ggggttaaaaa tccataacta 1850  
 aagggtgtac acatagatgg gcacactcac agagagaagt gtgcatgtac 1900  
 acacaccaca cacacacaca cacacacaca cacagaaata taaacacatg 1950  
 cgtcacatgg gcatttcaga tgatcagctc tgtatctggt taagtcgggt 2000  
 gctgggatgc accctgcact agagctgaaa ggaaatttga cctccaagca 2050  
 gccctgacag gttctgggcc cgggccctcc ctttgtgctt tgtctctgca 2100  
 gttcttgccg cctttataag gccatcctag tccctgctgg ctggcagggg 2150  
 cctggatggg gggcaggact aatactgagt gattgcagag tgctttataa 2200  
 atatcacctt attttatcga aaccatctg tgaaactttc actgaggaaa 2250  
 aggcttgca gcggtagaag aggttgagtc aaggccgggc gcggtggctc 2300  
 acgcctgtaa tcccagcact ttgggaggcc gaggcgggtg gatcacgaga 2350  
 tcaggagatc gagaccacc tggctaacac ggtgaaacc cgtctctact 2400  
 aaaaaaatac aaaaagttag ccgggcgtgg tgggtgggtgc ctgtagtccc 2450  
 agctactcgg gaggctgagg caggagaatg gtgcgaacc gggaggcgga 2500  
 gcttgcatg agccagatg gcgccactgc actccagcct gaggacaga 2550  
 gcgagactct gtctcca 2567

<210> 241  
 <211> 423  
 <212> PRT  
 <213> Homo sapiens

<400> 241  
 Met Ala Gln Ala Val Trp Ser Arg Leu Gly Arg Ile Leu Trp Leu  
 1 5 10 15  
 Ala Cys Leu Leu Pro Trp Ala Pro Ala Gly Val Ala Ala Gly Leu  
 20 25 30  
 Tyr Glu Leu Asn Leu Thr Thr Asp Ser Pro Ala Thr Thr Gly Ala  
 35 40 45

Val	Val	Thr	Ile	Ser	Ala	Ser	Leu	Val	Ala	Lys	Asp	Asn	Gly	Ser	
				50					55					60	
Leu	Ala	Leu	Pro	Ala	Asp	Ala	His	Leu	Tyr	Arg	Phe	His	Trp	Ile	
				65					70					75	
His	Thr	Pro	Leu	Val	Leu	Thr	Gly	Lys	Met	Glu	Lys	Gly	Leu	Ser	
				80					85					90	
Ser	Thr	Ile	Arg	Val	Val	Gly	His	Val	Pro	Gly	Glu	Phe	Pro	Val	
				95					100					105	
Ser	Val	Trp	Val	Thr	Ala	Ala	Asp	Cys	Trp	Met	Cys	Gln	Pro	Val	
				110					115					120	
Ala	Arg	Gly	Phe	Val	Val	Leu	Pro	Ile	Thr	Glu	Phe	Leu	Val	Gly	
				125					130					135	
Asp	Leu	Val	Val	Thr	Gln	Asn	Thr	Ser	Leu	Pro	Trp	Pro	Ser	Ser	
				140					145					150	
Tyr	Leu	Thr	Lys	Thr	Val	Leu	Lys	Val	Ser	Phe	Leu	Leu	His	Asp	
				155					160					165	
Pro	Ser	Asn	Phe	Leu	Lys	Thr	Ala	Leu	Phe	Leu	Tyr	Ser	Trp	Asp	
				170					175					180	
Phe	Gly	Asp	Gly	Thr	Gln	Met	Val	Thr	Glu	Asp	Ser	Val	Val	Tyr	
				185					190					195	
Tyr	Asn	Tyr	Ser	Ile	Ile	Gly	Thr	Phe	Thr	Val	Lys	Leu	Lys	Val	
				200					205					210	
Val	Ala	Glu	Trp	Glu	Glu	Val	Glu	Pro	Asp	Ala	Thr	Arg	Ala	Val	
				215					220					225	
Lys	Gln	Lys	Thr	Gly	Asp	Phe	Ser	Ala	Ser	Leu	Lys	Leu	Gln	Glu	
				230					235					240	
Thr	Leu	Arg	Gly	Ile	Gln	Val	Leu	Gly	Pro	Thr	Leu	Ile	Gln	Thr	
				245					250					255	
Phe	Gln	Lys	Met	Thr	Val	Thr	Leu	Asn	Phe	Leu	Gly	Ser	Pro	Pro	
				260					265					270	
Leu	Thr	Val	Cys	Trp	Arg	Leu	Lys	Pro	Glu	Cys	Leu	Pro	Leu	Glu	
				275					280					285	
Glu	Gly	Glu	Cys	His	Pro	Val	Ser	Val	Ala	Ser	Thr	Ala	Tyr	Asn	
				290					295					300	
Leu	Thr	His	Thr	Phe	Arg	Asp	Pro	Gly	Asp	Tyr	Cys	Phe	Ser	Ile	
				305					310					315	
Arg	Ala	Glu	Asn	Ile	Ile	Ser	Lys	Thr	His	Gln	Tyr	His	Lys	Ile	
				320					325					330	
Gln	Val	Trp	Pro	Ser	Arg	Ile	Gln	Pro	Ala	Val	Phe	Ala	Phe	Pro	

	335		340		345
Cys Ala Thr Leu Ile Thr Val Met Leu Ala Phe Ile Met Tyr Met					
	350		355		360
Thr Leu Arg Asn Ala Thr Gln Gln Lys Asp Met Val Glu Asn Pro					
	365		370		375
Glu Pro Pro Ser Gly Val Arg Cys Cys Cys Gln Met Cys Cys Gly					
	380		385		390
Pro Phe Leu Leu Glu Thr Pro Ser Glu Tyr Leu Glu Ile Val Arg					
	395		400		405
Glu Asn His Gly Leu Leu Pro Pro Leu Tyr Lys Ser Val Lys Thr					
	410		415		420
Tyr Thr Val					

<210> 242  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 242  
 catttcctta ccctggaccc agctcc 26

<210> 243  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 243  
 gaaaggccca cagcacatct ggcag 25

<210> 244  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 244  
 ccacgacccg agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
 <211> 485  
 <212> DNA  
 <213> Homo sapiens



<400> 245  
 gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50  
 gctcccagat ctgggcccgt tgcctcctgc tcctcctcct cctcgccagc 100  
 ctgaccagtg gctctgtttt cccacaacag acgggacaac ttgcagagct 150  
 gcaaccccag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
 agaggcgaag gaggcgagac acccacttcc ccatctgcat tttctgctgc 250  
 ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
 acctgccctg ccccgctccc ctcccttctt tattttattcc tgctgcccc 350  
 gaacataggt cttggaataa aatggctggg tcttttgttt tccaaaaaaaa 400  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
 <211> 84  
 <212> PRT  
 <213> Homo sapiens

<400> 246  
 Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
 1 5 10 15  
 Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
 20 25 30  
 Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
 35 40 45  
 Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
 50 55 60  
 Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
 65 70 75  
 Ser Lys Cys Gly Met Cys Cys Lys Thr  
 80

<210> 247  
 <211> 2359  
 <212> DNA  
 <213> Homo sapiens

<400> 247  
 ctgtcaggaa ggaccatctg aaggctgcaa tttgttctta gggaggcagg 50  
 tgctggcctg gcttggatct tccaccatgt tcctgttgct gccttttgat 100  
 agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150  
 ccttctcggt ttcacatag tgccagccat ttttggagtc tcctttggta 200

tccgcaaact	ctacatgaaa	agtctgttaa	aaatctttgc	gtgggctacc	250
ttgagaatgg	agcgaggagc	caaggagaag	aaccaccagc	tttacaagcc	300
ctacaccaac	ggaatcattg	caaaggatcc	cacttcacta	gaagaagaga	350
tcaaagagat	tcgtcgaagt	ggtagtagta	aggctctgga	caacactcca	400
gagttcgagc	tctctgacat	tttctacttt	tgccggaaaag	gaatggagac	450
cattatggat	gatgagggtga	caaagagatt	ctcagcagaa	gaactggagt	500
cctggaacct	gctgagcaga	accaattata	acttcagta	catcagcctt	550
cggctcacgg	tcctgtgggg	gttaggagtg	ctgattcggg	actgctttct	600
gctgccgctc	aggatagcac	tggctttcac	agggattagc	cttctggtgg	650
tgggcacaac	tgtggtggga	tacttgccaa	atgggagggt	taaggaattc	700
atgagtaaac	atgttcactt	aatgtgttac	cggatctgcg	tgcgagcgct	750
gacagccatc	atcacctacc	atgacagga	aaacagacca	agaaatggtg	800
gcatctgtgt	ggccaatcat	acctcaccca	tcgatgtgat	catcttggcc	850
agcgatggct	attatgccat	ggtgggtcaa	gtgcacgggg	gactcatggg	900
tgtgattcag	agagccatgg	tgaaggcctg	cccacacgtc	tggtttgagc	950
gctcggaagt	gaaggatcgc	cacctggtgg	ctaagagact	gactgaacat	1000
gtgcaagata	aaagcaagct	gcctatcctc	atcttcccag	aaggaacctg	1050
catcaataat	acatcgggtga	tgatgttcaa	aaagggaagt	tttgaaattg	1100
gagccacagt	ttaccctggt	gctatcaagt	atgaccctca	atttggcgat	1150
gccttctgga	acagcagcaa	atacgggatg	gtgacgtacc	tgctgcgaat	1200
gatgaccagc	tgggccattg	tctgcagcgt	gtggtacctg	cctcccatga	1250
ctagagaggc	agatgaagat	gctgtccagt	ttgcgaatag	ggtgaaatct	1300
gccattgcca	ggcagggagg	acttgtggac	ctgctgtggg	atgggggcct	1350
gaagagggag	aagggtgaagg	acacgttcaa	ggaggagcag	cagaagctgt	1400
acagcaagat	gatcgtgggg	aaccacaagg	acaggagccg	ctcctgagcc	1450
tgctccagc	tggctggggc	caccgtgcgg	ggtgccaaag	ggctcagagc	1500
tggagttgcc	gccgccgccc	ccactgctgt	gtcctttcca	gactccaggg	1550
ctccccgggc	tgctctggat	cccaggactc	cggctttcgc	cgagccgcag	1600
cgggatccct	gtgcaccggg	cgcagcctac	ccttggtggg	ctaaacggat	1650



				110					115					120
Lys	Gly	Met	Glu	Thr 125	Ile	Met	Asp	Asp	Glu 130	Val	Thr	Lys	Arg	Phe 135
Ser	Ala	Glu	Glu	Leu 140	Glu	Ser	Trp	Asn	Leu 145	Leu	Ser	Arg	Thr	Asn 150
Tyr	Asn	Phe	Gln	Tyr 155	Ile	Ser	Leu	Arg	Leu 160	Thr	Val	Leu	Trp	Gly 165
Leu	Gly	Val	Leu	Ile 170	Arg	Tyr	Cys	Phe	Leu 175	Leu	Pro	Leu	Arg	Ile 180
Ala	Leu	Ala	Phe	Thr 185	Gly	Ile	Ser	Leu	Leu 190	Val	Val	Gly	Thr	Thr 195
Val	Val	Gly	Tyr	Leu 200	Pro	Asn	Gly	Arg	Phe 205	Lys	Glu	Phe	Met	Ser 210
Lys	His	Val	His	Leu 215	Met	Cys	Tyr	Arg	Ile 220	Cys	Val	Arg	Ala	Leu 225
Thr	Ala	Ile	Ile	Thr 230	Tyr	His	Asp	Arg	Glu 235	Asn	Arg	Pro	Arg	Asn 240
Gly	Gly	Ile	Cys	Val 245	Ala	Asn	His	Thr	Ser 250	Pro	Ile	Asp	Val	Ile 255
Ile	Leu	Ala	Ser	Asp 260	Gly	Tyr	Tyr	Ala	Met 265	Val	Gly	Gln	Val	His 270
Gly	Gly	Leu	Met	Gly 275	Val	Ile	Gln	Arg	Ala 280	Met	Val	Lys	Ala	Cys 285
Pro	His	Val	Trp	Phe 290	Glu	Arg	Ser	Glu	Val 295	Lys	Asp	Arg	His	Leu 300
Val	Ala	Lys	Arg	Leu 305	Thr	Glu	His	Val	Gln 310	Asp	Lys	Ser	Lys	Leu 315
Pro	Ile	Leu	Ile	Phe 320	Pro	Glu	Gly	Thr	Cys 325	Ile	Asn	Asn	Thr	Ser 330
Val	Met	Met	Phe	Lys 335	Lys	Gly	Ser	Phe	Glu 340	Ile	Gly	Ala	Thr	Val 345
Tyr	Pro	Val	Ala	Ile 350	Lys	Tyr	Asp	Pro	Gln 355	Phe	Gly	Asp	Ala	Phe 360
Trp	Asn	Ser	Ser	Lys 365	Tyr	Gly	Met	Val	Thr 370	Tyr	Leu	Leu	Arg	Met 375
Met	Thr	Ser	Trp	Ala 380	Ile	Val	Cys	Ser	Val 385	Trp	Tyr	Leu	Pro	Pro 390
Met	Thr	Arg	Glu	Ala 395	Asp	Glu	Asp	Ala	Val 400	Gln	Phe	Ala	Asn	Arg 405

Val Lys Ser Ala Ile Ala Arg Gln Gly Gly Leu Val Asp Leu Leu  
410 415 420

Trp Asp Gly Gly Leu Lys Arg Glu Lys Val Lys Asp Thr Phe Lys  
425 430 435

Glu Glu Gln Gln Lys Leu Tyr Ser Lys Met Ile Val Gly Asn His  
440 445 450

Lys Asp Arg Ser Arg Ser  
455

<210> 249  
<211> 1103  
<212> DNA  
<213> Homo sapiens

<400> 249  
gccctcgaa accaggactc cagcacctct ggtcccgccc tcaccggac 50  
ccctggccct cacgtctcct ccagggatgg cgctggcggc tttgatgatc 100  
gccctcggca gcctcggcct ccacacctgg caggcccagg ctgttccac 150  
cactctgcc ctgggcctgg ctccagacac ctttgacgat acctatgtgg 200  
gttgtgcaga ggagatggag gagaaggcag cccccctgct aaaggaggaa 250  
atggcccacc atgccctgct gcgggaatcc tgggaggcag cccaggagac 300  
ctgggaggac aagcgtcgag ggcttacctt gccccctggc ttcaaagccc 350  
agaatggaat agccattatg gtctacacca actcatcgaa caccttgtac 400  
tgaggattga atcaggccgt gcggacgggc ggaggctccc gggagctcta 450  
catgaggcac tttcccttca aggcctgca tttctacctg atccgggccc 500  
tgcagctgct gcgaggcagt gggggctgca gcaggggacc tggggaggtg 550  
gtgttccgag gtgtgggcag ctttcgcttt gaaccaaga ggctggggga 600  
ctctgtccgc ttgggccagt ttgcctccag ctccctggat aaggcagtgg 650  
cccacagatt tggggagaag aggcggggct gtgtgtctgc gccaggggtg 700  
cagctagggc cacaatctga gggggcctcc tctctgcccc cctggaagac 750  
tctgctcttg gccctggag agttccagct ctcaggggtt gggccctgaa 800  
agtccaacat ctgccactta ggagccctgg gaacgggtga cttcatatg 850  
acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
ccagccctag cagccttctc cccaaccagg atgttggcct ggggaggcca 950  
cagcagggt gagggaaactc tgctatgtga tggggacttc ctgggacaag 1000

caaggaaagt actgaggcag ccacttgatt gaacggtgtt gcaatgtgga 1050  
gacatggagt tttattgagg tagctacgtg attaaatggt attgcagtgt 1100  
gga 1103

<210> 250  
<211> 240  
<212> PRT  
<213> Homo sapiens

<400> 250  
Met Ala Leu Ala Ala Leu Met Ile Ala Leu Gly Ser Leu Gly Leu  
1 5 10 15  
His Thr Trp Gln Ala Gln Ala Val Pro Thr Ile Leu Pro Leu Gly  
20 25 30  
Leu Ala Pro Asp Thr Phe Asp Asp Thr Tyr Val Gly Cys Ala Glu  
35 40 45  
Glu Met Glu Glu Lys Ala Ala Pro Leu Leu Lys Glu Glu Met Ala  
50 55 60  
His His Ala Leu Leu Arg Glu Ser Trp Glu Ala Ala Gln Glu Thr  
65 70 75  
Trp Glu Asp Lys Arg Arg Gly Leu Thr Leu Pro Pro Gly Phe Lys  
80 85 90  
Ala Gln Asn Gly Ile Ala Ile Met Val Tyr Thr Asn Ser Ser Asn  
95 100 105  
Thr Leu Tyr Trp Glu Leu Asn Gln Ala Val Arg Thr Gly Gly Gly  
110 115 120  
Ser Arg Glu Leu Tyr Met Arg His Phe Pro Phe Lys Ala Leu His  
125 130 135  
Phe Tyr Leu Ile Arg Ala Leu Gln Leu Leu Arg Gly Ser Gly Gly  
140 145 150  
Cys Ser Arg Gly Pro Gly Glu Val Val Phe Arg Gly Val Gly Ser  
155 160 165  
Leu Arg Phe Glu Pro Lys Arg Leu Gly Asp Ser Val Arg Leu Gly  
170 175 180  
Gln Phe Ala Ser Ser Ser Leu Asp Lys Ala Val Ala His Arg Phe  
185 190 195  
Gly Glu Lys Arg Arg Gly Cys Val Ser Ala Pro Gly Val Gln Leu  
200 205 210  
Gly Ser Gln Ser Glu Gly Ala Ser Ser Leu Pro Pro Trp Lys Thr  
215 220 225  
Leu Leu Leu Ala Pro Gly Glu Phe Gln Leu Ser Gly Val Gly Pro

<210> 251  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 251  
 ccaccacctg gaggtcctgc agttgggcag gaactccatc cggcagattg 50

<210> 252  
 <211> 1076  
 <212> DNA  
 <213> Homo sapiens

<400> 252  
 gtggccttcat ttcagtggct gacttccaga gagcaatatg gctgggtccc 50  
 caacatgcct caccctcatc tatacctttt ggcagctcac agggtcagca 100  
 gcctctggac ccgtgaaaga gctggtcggt tccgttgggtg gggccgtgac 150  
 tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
 tcaacacaac ccctcttgtc accatacagc cagaaggggg cactatcata 250  
 gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300  
 ctccctgaag ctacagcaaac tgaagaagaa tgactcaggg atctactatg 350  
 tggggatata cagctcatca ctccagcagc cctccacca ggagtacgtg 400  
 ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450  
 gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattggaac 500  
 atggggaaga ggatgtgatt tatacctgga aggccctggg gcaagcagcc 550  
 aatgagtcct ataattgggtc catcctcccc atctcctgga gatggggaga 600  
 aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaact 650  
 tctcaagccc catccttgcc aggaagctct gtgaagggtc tgctgatgac 700  
 ccagattcct ccatggtcct cctgtgtctc ctggttggtc ccctcctgct 750  
 cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
 aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850  
 cctaacatat gccccattc tggagagaac acagagtacg acacaatccc 900  
 tcacactaat agaacaatcc taaaggaaga tccagcaaata acggtttact 950  
 ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000





Phe Val Leu Gly Leu Phe Leu Trp Phe Leu Lys Arg Glu Arg Gln  
 245 250 255  
 Glu Glu Tyr Ile Glu Glu Lys Lys Arg Val Asp Ile Cys Arg Glu  
 260 265 270  
 Thr Pro Asn Ile Cys Pro His Ser Gly Glu Asn Thr Glu Tyr Asp  
 275 280 285  
 Thr Ile Pro His Thr Asn Arg Thr Ile Leu Lys Glu Asp Pro Ala  
 290 295 300  
 Asn Thr Val Tyr Ser Thr Val Glu Ile Pro Lys Lys Met Glu Asn  
 305 310 315  
 Pro His Ser Leu Leu Thr Met Pro Asp Thr Pro Arg Leu Phe Ala  
 320 325 330  
 Tyr Glu Asn Val Ile  
 335

<210> 254  
 <211> 1053  
 <212> DNA  
 <213> Homo sapiens

<400> 254  
 ctggttcccc aacatgcctc accctcatct atatcctttg gcagctcaca 50  
 gggtcagcag cctctggacc cgtgaaagag ctggtcggtt ccgttggtgg 100  
 ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150  
 tctggacctt caacacaacc cctcttgtca ccatacagcc agaagggggc 200  
 actatcatag tgacccaaaa tcgtaatagg gagagagtag acttcccaga 250  
 tggaggctac tcctgaagc tcagcaaact gaagaagaat gactcaggga 300  
 tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350  
 gagtacgtgc tgcatgtcta cgagcacctg tcaaagccta aagtcaccat 400  
 gggctctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450  
 gcatggaaca tggggaagag gatgtgattt atacctggaa ggccctgggg 500  
 caagcagcca atgagtccca taatgggtcc atcctcccca tctcctggag 550  
 atggggagaa agtgatatga ccttcatctg cgttgccagg aaccctgtca 600  
 gcagaaactt ctcaagcccc atccttgcca ggaagctctg tgaaggtgct 650  
 gctgatgacc cagattcctc catggctcctc ctgtgtctcc tgttggtgcc 700  
 cctcctgctc agtctctttg tactggggct atttctttgg tttctgaaga 750  
 gagagagaca agaagagtac attgaagaga agaagagagt ggacatttgt 800

cgggaaaactc ctaacatatg cccccattct ggagagaaca cagagtacga 850  
 cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900  
 cggtttactc cactgtggaa ataccgaaaa agatggaaaa tccccactca 950  
 ctgtctcacga tgccagacac accaaggcta tttgcctatg agaatgttat 1000  
 ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050  
 aaa 1053

<210> 255  
 <211> 860  
 <212> DNA  
 <213> Homo sapiens

<400> 255.  
 gaaagacgtg gtcttgacag acagacaatc ctattcccta ccaaatgaa 50  
 gatgctgctg ctgctgtgtt tgggactgac cctagtctgt gtccatgcag 100  
 aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150  
 gaatggcata ctattatcct ggctctgac aaaagagaaa agatagaaga 200  
 acatggcaac tttagacttt ttctggagca aatccatgtc ttggagaatt 250  
 ccttagttct taaagtccat actgtaagag atgaagagtg ctccgaatta 300  
 tctatggttg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350  
 tgatggattc aatacattta ctatacctaa gacagactat gataactttc 400  
 ttatggctca cctcattaac gaaaaggatg gggaaacctt ccagctgatg 450  
 gggctctatg gccgagaacc agatttgagt tcagacatca aggaaagggt 500  
 tgcacaacta tgtgaggagc atggaatcct tagagaaaat atcattgacc 550  
 tatccaatgc caatcgctgc ctccaggccc gagaatgaag aatggcctga 600  
 gcctccagtg ttgagtggac acttctcacc aggactccac catcatccct 650  
 tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700  
 ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750  
 acctcatcaa gaatcaaaga cttcttttaa tttctctttg atacaccctt 800  
 gacaattttt catgaaatta ttctcttccc tgttcaataa atgattaccc 850  
 ttgcacttaa 860

<210> 256  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 256

Met	Lys	Met	Leu	Leu	Leu	Leu	Cys	Leu	Gly	Leu	Thr	Leu	Val	Cys	
1				5					10					15	
Val	His	Ala	Glu	Glu	Ala	Ser	Ser	Thr	Gly	Arg	Asn	Phe	Asn	Val	
				20					25					30	
Glu	Lys	Ile	Asn	Gly	Glu	Trp	His	Thr	Ile	Ile	Leu	Ala	Ser	Asp	
				35					40					45	
Lys	Arg	Glu	Lys	Ile	Glu	Glu	His	Gly	Asn	Phe	Arg	Leu	Phe	Leu	
				50					55					60	
Glu	Gln	Ile	His	Val	Leu	Glu	Asn	Ser	Leu	Val	Leu	Lys	Val	His	
				65					70					75	
Thr	Val	Arg	Asp	Glu	Glu	Cys	Ser	Glu	Leu	Ser	Met	Val	Ala	Asp	
				80					85					90	
Lys	Thr	Glu	Lys	Ala	Gly	Glu	Tyr	Ser	Val	Thr	Tyr	Asp	Gly	Phe	
				95					100					105	
Asn	Thr	Phe	Thr	Ile	Pro	Lys	Thr	Asp	Tyr	Asp	Asn	Phe	Leu	Met	
				110					115					120	
Ala	His	Leu	Ile	Asn	Glu	Lys	Asp	Gly	Glu	Thr	Phe	Gln	Leu	Met	
				125					130					135	
Gly	Leu	Tyr	Gly	Arg	Glu	Pro	Asp	Leu	Ser	Ser	Asp	Ile	Lys	Glu	
				140					145					150	
Arg	Phe	Ala	Gln	Leu	Cys	Glu	Glu	His	Gly	Ile	Leu	Arg	Glu	Asn	
				155					160					165	
Ile	Ile	Asp	Leu	Ser	Asn	Ala	Asn	Arg	Cys	Leu	Gln	Ala	Arg	Glu	
				170					175					180	

<210> 257

<211> 766

<212> DNA

<213> Homo sapiens

<400> 257

ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50

gacatcctgc aatggattca gcctgctggt tctactgctg ttaggagtag 100

ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaattt 150

tctcaaaacc ccatctcttg ctttgagtgg tggttcccag gaattatagg 200

agcaggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250

aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300

agtgtgatca cagtcattgg tgctctgtat tgcattgctga tatccatcca 350

ggctctctta aaaggtcctc tcatgtgtaa ttctccaagc aacagtaatg 400

ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450  
 ttcaacttgc agtgggtttt caatgactct tgtgcacctc ctactgggtt 500  
 caataaacc accagtaacg acaccatggc gagtggctgg agagcatcta 550  
 gtttccactt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600  
 gtatttttag gtctattgct tgttgaatt ctggaggtcc tgtttgggct 650  
 cagtcagata gtcacgggtt tccttggctg tctgtgtgga gtctctaagc 700  
 gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750  
 gtttgaaaaa aaaaaa 766

<210> 258

<211> 229

<212> PRT

<213> Homo sapiens

<400> 258

Met	Thr	Cys	Cys	Glu	Gly	Trp	Thr	Ser	Cys	Asn	Gly	Phe	Ser	Leu	1	5	10	15
Leu	Val	Leu	Leu	Leu	Leu	Gly	Val	Val	Leu	Asn	Ala	Ile	Pro	Leu	20	25	30	
Ile	Val	Ser	Leu	Val	Glu	Glu	Asp	Gln	Phe	Ser	Gln	Asn	Pro	Ile	35	40	45	
Ser	Cys	Phe	Glu	Trp	Trp	Phe	Pro	Gly	Ile	Ile	Gly	Ala	Gly	Leu	50	55	60	
Met	Ala	Ile	Pro	Ala	Thr	Thr	Met	Ser	Leu	Thr	Ala	Arg	Lys	Arg	65	70	75	
Ala	Cys	Cys	Asn	Asn	Arg	Thr	Gly	Met	Phe	Leu	Ser	Ser	Phe	Phe	80	85	90	
Ser	Val	Ile	Thr	Val	Ile	Gly	Ala	Leu	Tyr	Cys	Met	Leu	Ile	Ser	95	100	105	
Ile	Gln	Ala	Leu	Leu	Lys	Gly	Pro	Leu	Met	Cys	Asn	Ser	Pro	Ser	110	115	120	
Asn	Ser	Asn	Ala	Asn	Cys	Glu	Phe	Ser	Leu	Lys	Asn	Ile	Ser	Asp	125	130	135	
Ile	His	Pro	Glu	Ser	Phe	Asn	Leu	Gln	Trp	Phe	Phe	Asn	Asp	Ser	140	145	150	
Cys	Ala	Pro	Pro	Thr	Gly	Phe	Asn	Lys	Pro	Thr	Ser	Asn	Asp	Thr	155	160	165	
Met	Ala	Ser	Gly	Trp	Arg	Ala	Ser	Ser	Phe	His	Phe	Asp	Ser	Glu	170	175	180	

Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu  
185 190 195

Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile  
200 205 210

Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg  
215 220 225

Ser Gln Ile Val

<210> 259  
<211> 434  
<212> DNA  
<213> Homo sapiens

<400> 259  
gtcgaatcca aatcactcat tgtgaaagct gagctcacag ccgaataagc 50  
caccatgagg ctgtcagtgt gtctcctgat ggtctcgctg gccctttgct 100  
gctaccaggc ccatgctctt gtctgcccag ctggttgcttc tgagatcaca 150  
gtcttcttat tcttaagtga cgctgcggta aacctccaag ttgccaaact 200  
taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
ccgatcagat atctttttaag aaacgactct cattgaaaaa gtcttggtgg 300  
aaatagttaa aaaatgtggt gtgtgacatg taaaaatgct caacctggtt 350  
tccaaagtct ttcaacgaca cctgatctt cactaaaaat tgtaaagggt 400  
tcaacacgtt gctttaataa atcacttgcc ctgc 434

<210> 260  
<211> 83  
<212> PRT  
<213> Homo sapiens

<400> 260  
Met Arg Leu Ser Val Cys Leu Leu Met Val Ser Leu Ala Leu Cys  
1 5 10 15  
Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu  
20 25 30  
Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln  
35 40 45  
Val Ala Lys Leu Asn Pro Pro Pro Glu Ala Leu Ala Ala Lys Leu  
50 55 60  
Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu  
65 70 75  
Ser Leu Lys Lys Ser Trp Trp Lys

<210> 261  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 261  
 atccgttctc tgcgctgccca gctcaggtga gccctcgcca aggtgacctc 50  
 gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100  
 ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150  
 cgccccagtg cctctcccccc tgcagccctg cccctcgaaac tgtgacatgg 200  
 agagagtgcac cctggccctt ctctactgg caggcctgac tgccttgga 250  
 gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300  
 aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350  
 ggatcgcggc agttctgagt ggcaaataca aatacaagag cagccagaag 400  
 cagcacagtc ctgtacctga gaaggccatc ccactcatca ctccaggctc 450  
 tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500  
 taacactggc ccccagcacc tcctcccctg ggaggcctta tcctcaagga 550  
 aggacttctc tccaagggca ggctgttagg cccctttctg atcaggaggc 600  
 ttctttatga attaaactcg cccaccacc ccctca 636

<210> 262  
 <211> 89  
 <212> PRT  
 <213> Homo sapiens

<400> 262  
 Met Glu Arg Val Thr Leu Ala Leu Leu Leu Leu Ala Gly Leu Thr  
 1 5 10 15  
 Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe  
 20 25 30  
 Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly  
 35 40 45  
 Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys  
 50 55 60  
 Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu  
 65 70 75  
 Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys  
 80 85

<210> 263  
 <211> 1676  
 <212> DNA  
 <213> Homo sapiens

<400> 263  
 ggagaagagg ttgtgtggga caagctgctc cgcacagaag gatgtcgctg 50  
 ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100  
 actcctgctg ctggttgtgg gctcctggct actcgcccg ctcctggctt 150  
 ggacctatgc cttctataac aactgccgcc ggctccagtg tttccacag 200  
 cccccaaaac ggaactggtt ttgggggtcac ctgggcctga tcaactctac 250  
 agaggagggc ttgaaggact cgaccagat gtcggccacc tattcccagg 300  
 gctttacggt atggctgggt cccatcatcc ccttcatcgt tttatgccac 350  
 cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcaccaa 400  
 ggataatctc ttcacaggt tcctgaagcc ctggctggga gaaggatac 450  
 tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgcc 500  
 gccttcatt tcaacatcct gaagtcctat ataacgatct tcaacaagag 550  
 tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600  
 gtcgtctgga catgtttgag cacatcagcc tcatgacctt ggacagtcta 650  
 cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700  
 atatattgcc accatcttgg agctcagtgc ccttgtagag aaaagaagcc 750  
 agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800  
 cggcgcttcc acagggcctg ccgcctggtg catgacttca cagacgctgt 850  
 catccgggag cggcgctgca ccctcccccac tcagggtatt gatgattttt 900  
 tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950  
 ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
 agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050  
 tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100  
 tgccgacagg aggtgcaaga gcttctgaag gaccgcatc ctaaagagat 1150  
 tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
 agagcctgag gttacatccc ccagctccct tcatctcccg atgctgcacc 1250  
 caggacattg ttctcccaga tggccgagtc atccccaaag gcattacctg 1300

cctcatcgat attatagggg tccatcaciaa cccaactgtg tggccggatc 1350  
 ctgaggtcta cgaccccttc cgctttgacc cagagaacag caaggggagg 1400  
 tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
 gcaggcggtc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
 tgcacttccg gttcctgcca gaccacactg agccccgcag gaagctggaa 1550  
 ttgatcatgc gcgccgaggg cgggctttgg ctgcgggtgg agcccctgaa 1600  
 tgtaggcttg cagtgacttt ctgacccatc cacctgtttt tttgcagatt 1650  
 gtcatgaata aaacgggtgct gtcaaa 1676

<210> 264

<211> 524

<212> PRT

<213> Homo sapiens

<400> 264

Met	Ser	Leu	Leu	Ser	Leu	Pro	Trp	Leu	Gly	Leu	Arg	Pro	Val	Ala	
1				5					10					15	
Met	Ser	Pro	Trp	Leu	Leu	Leu	Leu	Leu	Val	Val	Gly	Ser	Trp	Leu	
				20					25					30	
Leu	Ala	Arg	Ile	Leu	Ala	Trp	Thr	Tyr	Ala	Phe	Tyr	Asn	Asn	Cys	
				35					40					45	
Arg	Arg	Leu	Gln	Cys	Phe	Pro	Gln	Pro	Pro	Lys	Arg	Asn	Trp	Phe	
				50					55					60	
Trp	Gly	His	Leu	Gly	Leu	Ile	Thr	Pro	Thr	Glu	Glu	Gly	Leu	Lys	
				65					70					75	
Asp	Ser	Thr	Gln	Met	Ser	Ala	Thr	Tyr	Ser	Gln	Gly	Phe	Thr	Val	
				80					85					90	
Trp	Leu	Gly	Pro	Ile	Ile	Pro	Phe	Ile	Val	Leu	Cys	His	Pro	Asp	
				95					100					105	
Thr	Ile	Arg	Ser	Ile	Thr	Asn	Ala	Ser	Ala	Ala	Ile	Ala	Pro	Lys	
				110					115					120	
Asp	Asn	Leu	Phe	Ile	Arg	Phe	Leu	Lys	Pro	Trp	Leu	Gly	Glu	Gly	
				125					130					135	
Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met	
				140					145					150	
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr	
				155					160					165	
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His	
				170					175					180	



Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile	
				185					190					195	
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe	
				200					205					210	
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile	
				215					220					225	
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu	
				230					235					240	
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg	
				245					250					255	
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val	
				260					265					270	
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp	
				275					280					285	
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp	
				290					295					300	
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp	
				305					310					315	
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His	
				320					325					330	
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala	
				335					340					345	
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu	
				350					355					360	
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu	
				365					370					375	
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg	
				380					385					390	
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp	
				395					400					405	
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys	
				410					415					420	
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro	
				425					430					435	
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser	
				440					445					450	
Lys	Gly	Arg	Ser	Pro	Leu	Ala	Phe	Ile	Pro	Phe	Ser	Ala	Gly	Pro	
				455					460					465	
Arg	Asn	Cys	Ile	Gly	Gln	Ala	Phe	Ala	Met	Ala	Glu	Met	Lys	Val	

	470		475		480
Val	Leu	Ala	Leu	Met	Leu
				Leu	Leu
				His	Phe
				Arg	Phe
				Leu	Pro
				Asp	His
				485	490
					495
Thr	Glu	Pro	Arg	Arg	Lys
				Leu	Glu
				Leu	Ile
				Met	Arg
				Ala	Glu
				Gly	Gly
				500	505
					510
Gly	Leu	Trp	Leu	Arg	Val
				Glu	Pro
				Leu	Asn
				Val	Gly
				Leu	Gln
				515	520

<210> 265  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 265  
 caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
 ctggcctcct gctgtttgct tttcacagga ttcttaaatac ctctcttatac 100  
 tcttcctctc cttgactcca gggaaatatc ctttcaactc tcagcacctc 150  
 atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
 cagatattgc cagagatgct ggggtgcagaa agaggggata ttctcaggaa 250  
 agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300  
 ttcaggattt ctctggacaa gatcctaaca ttttactgag tcactcttttg 350  
 gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
 gaaataactgt gtctgaagtg aaataagcat ctgttagtca gctcagaaac 450  
 acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
 tggagaaaaa ctaggcaaac tacaccctgt tcattgttac ctggaaaata 550  
 aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 266  
 Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu  
 1 5 10 15  
 Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser  
 20 25 30  
 Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
 35 40 45  
 Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
 50 55 60

Gly	Ala	Glu	Arg	Gly	Asp	Ile	Leu	Arg	Lys	Ala	Asp	Ser	Ser	Thr
				65					70					75
Asn	Ile	Phe	Asn	Pro	Arg	Gly	Asn	Leu	Arg	Lys	Phe	Gln	Asp	Phe
				80					85					90
Ser	Gly	Gln	Asp	Pro	Asn	Ile	Leu	Leu	Ser	His	Leu	Leu	Ala	Arg
				95					100					105
Ile	Trp	Lys	Pro	Tyr	Lys	Lys	Arg	Glu	Thr	Pro	Asp	Cys	Phe	Trp
				110					115					120
Lys	Tyr	Cys	Val											

<210> 267  
 <211> 654  
 <212> DNA  
 <213> Homo sapiens

<400> 267  
 gaacattttt agttcccaag gaatgtacat cagccccacg gaagctaggc 50  
 cacctctggg atgggggttg tggttttaaaa caaacgccag tcatactata 100  
 taaggacctg acagccacca ggcaccacct ccgccaggaa ctgcaggccc 150  
 acctgtctgc aaccagctg aggccatgcc ctccccaggg accgtctgca 200  
 gcctcctgct cctcggcatg ctctggctgg acttggccat ggcaggctcc 250  
 agcttcctga gccctgaaca ccagagagtc cagcagagaa aggagtcgaa 300  
 gaagccacca gccaagctgc agccccgagc tctagcaggc tggctccgcc 350  
 cggaagatgg aggtcaagca gaaggggcag aggatgaact ggaagtccgg 400  
 ttcaacgccc cttttgatgt tggaatcaag ctgtcagggg ttcagtacca 450  
 gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaag 500  
 aggccaaaga ggccccagcc gacaagtgat cgcccacaag cttactcac 550  
 ctctctctaa gtttagaagc gtcactctgg cttttcgctt gcttctgcag 600  
 caactcccac gactgttgta caagctcagg aggccaataa atgttcaaac 650  
 tgta 654

<210> 268  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 268  
 Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Leu Gly Met  
 1 5 10 15

Leu Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro  
                   20                                  25                                  30  
 Glu His Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro  
                   35                                  40                                  45  
 Ala Lys Leu Gln Pro Arg Ala Leu Ala Gly Trp Leu Arg Pro Glu  
                   50                                  55                                  60  
 Asp Gly Gly Gln Ala Glu Gly Ala Glu Asp Glu Leu Glu Val Arg  
                   65                                  70                                  75  
 Phe Asn Ala Pro Phe Asp Val Gly Ile Lys Leu Ser Gly Val Gln  
                   80                                  85                                  90  
 Tyr Gln Gln His Ser Gln Ala Leu Gly Lys Phe Leu Gln Asp Ile  
                   95                                 100                                 105  
 Leu Trp Glu Glu Ala Lys Glu Ala Pro Ala Asp Lys  
                  110                                 115

<210> 269

<211> 1332

<212> DNA

<213> Homo sapiens

<400> 269

cggccacagc tggcatgctc tgccctgatcg ccatacctgct gtatgtcctc 50  
 gtccagtacc tcgtgaaccc cgggggtgctc cgcacggacc ccagatgtca 100  
 agaatatgaa cacgtggctg ctgttcctcc ccctgttccc ggtgcagggtg 150  
 cagaccctga tagtcgtgat catcgggatg ctcgtgctcc tgctggactt 200  
 tcttggttg gtgcacctgg gccagctgct catcttcac atctacctga 250  
 gtatgtcccc caccctaagc ccccgatccc cccaaggctg ggtggtcaga 300  
 gctgctcatc ttacacctct acttgagtat gtccctaacc ctgagcccc 350  
 cagcctctgg gccagagtct ttgtcccccg tgtgcgcatg tggttcagggt 400  
 cagcctctcc cagaagtga atcatggaca aaaagggcaa atcacaggaa 450  
 gaaattaaat ccatgaggac ccagcaggcc cagcaagaag ctgaactcac 500  
 gccgagacct gcaggagtgg tgccaggctg ttgaagtaac aagtttaaaa 550  
 tggttcagaga caatggaatg gaatctatta ggcaagaaca ggacattatg 600  
 aaataaggac aggtggactt caaaaaacac aagtagaaat tctaacaatg 650  
 aaatatatta caggcaggtc acccactaac caaacaactg aagcgagagc 700  
 tgtggtcttg cttggtctca cagtgggcac agcggtaggc ggtcagtcac 750  
 gttgctgaac gacggagggt aaactcccca gcccgaagaa aacctgtgtt 800

ggaagtaaca acaacctccc tgctcctggc accagccgtt ttggcatgg 850  
 tgggccagct gcaaagcgtc ttccattctc tgggcagtgg tggccccgag 900  
 gctgtggcct ctcaggggggt ttctgtggac acgggcagca gagtgtgtcc 950  
 aggccagccc ccaagaatgc cctgctcctg acagcttggc caacctctgg 1000  
 tcagggcaga gggagttggg tgggtcaggc tctgggctca cctccatctc 1050  
 cagagcatcc cctgcctgca gttgtggcaa gaacgccag ctcagaatga 1100  
 acacacccca ccaagagcct ccttgttcat aaccacaggt taccctacaa 1150  
 accactgtcc ccacacaacc ctggggatgt tttaaaacac acacctctaa 1200  
 cgcatatctt acagtactg ttgtcttgcc tgagggttga atttttttta 1250  
 atgaaagtgc aatgaaaatc actggattaa atcctacgga cacagagctg 1300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
 Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
 1 5 10 15  
 Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
 20 25 30  
 Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
 35 40 45  
 Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
 50 55 60  
 Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
 65 70 75  
 Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
 80 85 90  
 Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
 95 100 105  
 Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
 110 115 120  
 Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
 125 130 135  
 Ala Gly Val Val Pro Gly Ala  
 140

<210> 271  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 271  
 ggagtgcaga tggcatcctt cggttcttcc agacaagctg caagacgctg 50  
 accatggcca agatggagct ctggaaggcc ttctctggcc agcggacact 100  
 cctatctgcc atcctcagca tgctatcaact cagcttctcc acaacatccc 150  
 tgctcagcaa ctactggttt gtggggcacac agaaggtgcc caagcccctg 200  
 tgcgagaaaag gtctggcagc caagtgcctt gacatgccag tgtccctgga 250  
 tggagatacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
 ctggggatga ccggttctcc ttccggagct tccggagtgg catgtggcta 350  
 tcctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400  
 tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
 ccacgttgca aggcccatgt caccctcctc tccgatttg agggaagcgg 500  
 ttgatggaga aggttccct cccctccct ccttggggc tttgtggcaa 550  
 aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
 ttcacagct tcctcctgct actaacagac ttgctactca ctgggaacct 650  
 tgctgtggg ctcaaactga gcgcctttgc tgctgtttcc tctgtcctgt 700  
 caggtctcct ggggatggtg gccacatga tgtattcaca agtcttcaa 750  
 gcgactgtca acttgggtcc agaagactgg agaccacatg tttggaatta 800  
 tggctgggcc ttctacatgg cctggctctc cttcacctgc tgcattggct 850  
 cggctgtcac caccttcaac acgtacacca ggatggtgct ggagttcaag 900  
 tgcaagcata gtaagagctt caaggaaaac ccgaactgcc taccacatca 950  
 ccatcagtgt ttccctcggc ggctgtcaag tgcagcccc accgtgggtc 1000  
 ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
 gagggagtgc acttctactc cgagctgcgg aacaagggat ttcaaagagg 1100  
 ggccagccag gagctgaaag aagcagttag gtcattctgta gaggaagagc 1150  
 agtgtttaga gtaagcggg tttggggagt aggcttgagc cctaccttac 1200  
 acgtctgctg attatcaaca tgtgtttaag ccaacatccg tctcttgagc 1250  
 atggttttta gaggctacga ataaggctat gaataagggt tatctttaag 1300

tcctaagggga ttcttggggtg ccaactgctct cttttcctct acagctccat 1350  
 cttgtttcac ccaccccaca tctcacacat ccagaattcc cttctttact 1400  
 gatagtttct gtgccagggtt ctgggctaata ccatggagat aaaaagaaga 1450  
 gtaaaaataca cttcccgacc ttaaggatct gaaa 1484

<210> 272

<211> 285

<212> PRT

<213> Homo sapiens

<400> 272

Met	Ala	Lys	Met	Glu	Leu	Ser	Lys	Ala	Phe	Ser	Gly	Gln	Arg	Thr	1	5	10	15
Leu	Leu	Ser	Ala	Ile	Leu	Ser	Met	Leu	Ser	Leu	Ser	Phe	Ser	Thr	20	25	30	
Thr	Ser	Leu	Leu	Ser	Asn	Tyr	Trp	Phe	Val	Gly	Thr	Gln	Lys	Val	35	40	45	
Pro	Lys	Pro	Leu	Cys	Glu	Lys	Gly	Leu	Ala	Ala	Lys	Cys	Phe	Asp	50	55	60	
Met	Pro	Val	Ser	Leu	Asp	Gly	Asp	Thr	Asn	Thr	Ser	Thr	Gln	Glu	65	70	75	
Val	Val	Gln	Tyr	Asn	Trp	Glu	Thr	Gly	Asp	Asp	Arg	Phe	Ser	Phe	80	85	90	
Arg	Ser	Phe	Arg	Ser	Gly	Met	Trp	Leu	Ser	Cys	Glu	Glu	Thr	Val	95	100	105	
Glu	Glu	Pro	Gly	Glu	Arg	Cys	Arg	Ser	Phe	Ile	Glu	Leu	Thr	Pro	110	115	120	
Pro	Ala	Lys	Arg	Gly	Glu	Lys	Gly	Leu	Leu	Glu	Phe	Ala	Thr	Leu	125	130	135	
Gln	Gly	Pro	Cys	His	Pro	Thr	Leu	Arg	Phe	Gly	Gly	Lys	Arg	Leu	140	145	150	
Met	Glu	Lys	Ala	Ser	Leu	Pro	Ser	Pro	Pro	Leu	Gly	Leu	Cys	Gly	155	160	165	
Lys	Asn	Pro	Met	Val	Ile	Pro	Gly	Asn	Ala	Asp	His	Leu	His	Arg	170	175	180	
Thr	Ser	Ile	His	Gln	Leu	Pro	Pro	Ala	Thr	Asn	Arg	Leu	Ala	Thr	185	190	195	
His	Trp	Glu	Pro	Cys	Leu	Trp	Ala	Gln	Thr	Glu	Arg	Leu	Cys	Cys	200	205	210	
Cys	Phe	Leu	Cys	Pro	Val	Arg	Ser	Pro	Gly	Asp	Gly	Gly	Pro	His	215	220	225	

Asp	Val	Phe	Thr	Ser	Leu	Pro	Ser	Asp	Cys	Gln	Leu	Gly	Ser	Arg
				230					235					240
Arg	Leu	Glu	Thr	Thr	Cys	Leu	Glu	Leu	Trp	Leu	Gly	Leu	Leu	His
				245					250					255
Gly	Leu	Ala	Leu	Leu	His	Leu	Leu	His	Gly	Val	Gly	Cys	His	His
				260					265					270
Leu	Gln	His	Val	His	Gln	Asp	Gly	Ala	Gly	Val	Gln	Val	Gln	Ala
				275					280					285

<210> 273

<211> 1158

<212> DNA

<213> Homo sapiens

<400> 273

```

aactggaagg aaagaaagaa aggtcagctt tggcccagat gtggttacct 50
cttgggtctcc tgtcttttatg tctttctcct cttcctattc tgtcatctcc 100
ctcacttaag tctcaggcct gtcagcagct cctgtggaca ttgccatccc 150
ctctggtagc cttcagagca aacaggacaa cctatgttat ggatgtttcc 200
accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250
tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300
atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350
cctgccctat tctctctccc aagtctgttc tcttattgtc aacctcagca 400
caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450
tgggcagatt accatgcaag ccccaggaga aatggaggag cttttagacc 500
acctccctgt cagccagtat taacatgtcc ctttccccct gcccgcctgt 550
agattcagga cattcgcccc tgtgtgccac caaaccagga ctttccccct 600
ggcttggcat ccctggtctc ctctggttac ccagcaagac gtctgttcca 650
gggcagtgtg gcatctttca agctccgtta ctatggcgat ggccatgatg 700
ttacaatccc acttgccctga ataatacaagt gggaagggga agcagaggga 750
aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800
accaaaggga agcaacagga acttctgcaa ctgggttttta tcggaaagat 850
catcctgcct gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900
agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950
tcagacctgg aattctgatt ccaaactctt tattactttg ggaagtcact 1000

```



cagcctcccc gtagccatct ccagggtgac ggaacccagt gtattacctg 1050  
 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100  
 tttctccaat tatgcccattg ccacaaaaac aataaaaacaa aattctctaa 1150  
 cactgaaa 1158

<210> 274  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu  
 1 5 10 15  
 Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln  
 20 25 30  
 Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn  
 35 40 45  
 Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly  
 50 55 60  
 Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg  
 65 70 75  
 Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu  
 80 85

<210> 275  
 <211> 2694  
 <212> DNA  
 <213> Homo sapiens

<400> 275  
 gtagcgctc ttgggtctcc cggctgccgc tgctgccgcc gccgcctcgg 50  
 gtcgtggagc caggagcgac gtcaccgcca tggcaggcat caaagctttg 100  
 attagtttgt cctttggagg agcaatcgga ctgatgtttt tgatgcttgg 150  
 atgtgccctt ccaatataca acaaatactg gcccctcttt gttctatttt 200  
 ttacatcct ttcacctatt ccatactgca tagcaagaag attagtggat 250  
 gatacagatg ctatgagtaa cgcttgtaag gaacttgcca tctttcttac 300  
 aacgggcatt gtcgtgtcag cttttggact ccctattgta tttgccagag 350  
 cacatctgat tgagtgggga gcttgtgcac ttgttctcac aggaaacaca 400  
 gtcacttttg caactatact aggctttttc ttggtctttg gaagcaatga 450  
 cgacttcagc tggcagcagt ggtgaaaaga aattactgaa ctattgtcaa 500

atggacttcc tgtcatttgt tggccattca cgcacacagg agatggggca 550  
 gttaatgctg aatggtatag caagcctctt ggggtatatt taggtgctcc 600  
 cttctcactt ttattgtaag catactatatt tcacagagac ttgctgaagg 650  
 attaaaagga ttttctcttt tggaaaagct tgactgattt cacacttatc 700  
 tatagtatgc tttttgtggt gtctgctga atttaaataat ttatgtgttt 750  
 ttctgttag gttgattttt tttggaatca atatgcaatg ttaaactt 800  
 ttttaatgta atcatttgca ttggttagga attcagaatt ccgccggctc 850  
 tattactggt caagtacatc ttttctctta aaattattta gcctccatta 900  
 ttacaaaaaa ttataaaaat aagttttcag tcagtcagga tgacatcact 950  
 cccaatgtta tgcagacata cagacggttg gcatacgtta tagactgtat 1000  
 actcagtga aatatagctg catttatacc tcagaggggc caagtgttaa 1050  
 tgcccatgcc ctccgttaag ggttggtggt tttactggta gacagatgtt 1100  
 ttgtggattg aaaattattt tatggaattg ctacagagga gtgcttttct 1150  
 tctcaattgt tagaagaatt tatgttaaac ttttaaggtaa ggggtgtaaaa 1200  
 acatttttga gataagggtt ttatttatgt ttattattgt tagagtgagt 1250  
 tgcaatgtgg gaagaaatga cattgaaatt ccagtttttg aatcctgttt 1300  
 ctatttataa gtgaaatttg tgatctccta tcaacctttc atgttttacc 1350  
 ctgttaaaat ggacatacat ggaaccacta ctgatgaggg acagttgtat 1400  
 gtttgcatca tatatgccag aaaaccttcc tctgcttctt ctttttgact 1450  
 tatttggtat gttgtatata ttacataaaa taacttttca aatatagttt 1500  
 aataacactt agaagtgttt acttacctgg aaaataattg ctatgccgta 1550  
 cattcagagt gccccctccc ctgcaaggcc ttgccatgat taacaagtaa 1600  
 cttgttagtc ttacagataa ttcatgcatt aacagtttaa gatttagacc 1650  
 atggtaatag tagttcttat tctctaagggt tatatcatat gtaatttaaa 1700  
 agtattttta agacaagttt cctgtatacc tctgaactgt tttgattttg 1750  
 agttcatcat gatagatctg ctgttttctt ataaaaggca tttgttgtgt 1800  
 gagttaatgc aaagtagcca agtccagcta tatagcagct tcagaaacat 1850  
 acctgaccaa aaaattccca gtaaccaggc atgatcaatt tatagtggtc 1900  
 gtttacatct aataattatc aggacttttt tcaggagtgg gttataaaaa 1950

cattcaagtt	ggtctgacag	tattttgtta	aggatatttg	tttgtatgtt	2000
tattcagtat	acttacataa	aaattatttc	gccatcagcc	aaaactcagt	2050
aatcatgaca	gctgtctggt	gttttatgaa	gtttatttct	caagaaaatg	2100
ggaataaatt	tgggatttgt	tcagcttttt	tactaaagat	gcctaaagcc	2150
acaggtttta	ttgcctaact	taagccatga	cttttagata	tgagatgacg	2200
ggaagcagga	cgaaatatcg	gcgtgtggct	ggagccttcc	cactggaggc	2250
tgaaagtggc	ttgtggtatt	ataatgttca	gatttcaaga	ggaaggtgca	2300
ggtacacatg	agttagagag	ctggtgagac	agttgggaac	tctttgtgct	2350
tgtgatctac	tggacttttt	ttttgcagga	agtgcattct	ctggtccttc	2400
cctattttct	gttctggatg	tcagtgcagt	gcactgctac	tgttttatcc	2450
acttggccac	agactttttc	taacagctgc	gtattatttc	tatatactaa	2500
ttgcattggc	agcattgtgt	ctttgacctt	gtatactagc	ttgacatagt	2550
gctgtctctg	atttctaggc	tagttacttg	agatatgaat	tttccataga	2600
atatgcactg	atacaacatt	accattcttc	tatggaaaga	aaacttttga	2650
tgatgaaaca	ataaagattt	taaatatcta	ttttaaaaaa	aaaa	2694

<210> 276

<212> PRT

<400> 276

**094793E**

264

ggaagctcac cacgctgcat atgcgggcca acgccatcca gtttgtgccc 1250  
 gtgcgcatct tccaggactg ccgcagcctc aagtttctcg acatcggata 1300  
 caatcagctc aagagtctgg cgcgcaactc tttcgccggc ttgtttaagc 1350  
 tcaccgagct gcacctcgag cacaacgact tgggtcaaggc gaacttcgcc 1400  
 cacttcccgc gcctcatctc cctgcactcg ctctgcctgc ggaggaacaa 1450  
 ggtggccatt gtggtcagct cgctggactg ggtttggaac ctggagaaaa 1500  
 tggacttgct gggcaacgag atcgagtaca tggagcccca tgtgttcgag 1550  
 accgtgccgc acctgcagtc cctgcagctg gactccaacc gcctcaccta 1600  
 catcgagccc cggtacctca actcttgga gtccttgaca agcatcacc 1650  
 tggccgggaa cctgtgggat tgcggggcga acgtgtgtgc cctagcctcg 1700  
 tggctcagca acttccaggg gcgctacgat ggcaacttgc agtgcgccag 1750  
 cccggagtac gcacagggcg aggacgtcct ggacgccgtg tacgccttcc 1800  
 acctgtgcga ggatggggcc gagcccacca gcggccacct gctctcgccc 1850  
 gtcaccaacc gcagtgatct gggggccccct gccagctcgg ccaccacgct 1900  
 cgcggaacgc ggggaggggc agcacgacgg cacattcgag cctgccaccg 1950  
 tggctcttcc aggcggcgag cacgccgaga acgccgtgca gatccacaag 2000  
 gtggtcacgg gcaccatggc cctcatcttc tccttctca tegtggctct 2050  
 ggtgctctac gtgtcctgga agtggttccc agccagcctc aggcagctca 2100  
 gacagtgctt tgtcacgag cgcaggaagc aaaagcagaa acagaccatg 2150  
 catcagatgg ctgccatgtc tgcccaggaa tactacgttg attacaaacc 2200  
 gaaccacatt gagggagccc tggatgatcat caacgagtat ggctcgtgta 2250  
 cctgccacca gcagcccgc agggaatgcg aggtgtgatt gtcccagtg 2300  
 ctctcaaccc atgcgctacc aaatacgctt gggcagccgg gacggggccg 2350  
 cgggcaccag gctggggctt ccttgtctgt gctctgatat gctccttgac 2400  
 tgaaacttta aggggatctc tcccagagac ttgacatttt agctttattg 2450  
 tgtcttaaaa acaaaagcga attaaaacac aacaaaaaac cccacccac 2500  
 aaccttcagg acagtctatc ttaaatttca tatgagaact ccttcctccc 2550  
 tttgaagatc tgtccatatt caggaatctg agagtgtaaa aaaggtggcc 2600  
 ataagacaga gagagaataa tcgtgctttg ttttatgcta ctctccac 2650

cctgcccattg attaaacatc atgtatgtag aagatcttaa gtccatacgc 2700  
 atttcatgaa gaaccattgg aaagaggaat ctgcaatctg ggagcttaag 2750  
 agcaaatgat gaccatagaa agctatgttc ttactttgtg tgtgtgtctg 2800  
 tatgtttctg cgttgtgtgt cttttagtagc aagcaaactg tgtctacaca 2850  
 aacgggaatt tagctcacat catttcatgc ccctgtgcct ctagctctgg 2900  
 agattgggtgg ggggaggtgg ggggaaacgg caggaataag ggaaagtgg 2950  
 agttttaact aaggttttgt aacacttgaa atcttttctt tctcaaatta 3000  
 attatcttta agcttcaaga aacttgctct gaccctcta agcaaactac 3050  
 taagcattta aaagagaatc taatttttaa aggtgtagca cttttttttt 3100  
 tattcttccc acagaggggtg ctaatctcat tatgctgtgc tatctgaaaa 3150  
 gaacttaagg ccacaattca cgtctcgtcc tgggcattgt gatggattga 3200  
 ccctccattt gcagtacctt ccagctgat taaagttcag cagtgggtatt 3250  
 gaggtttttc gaatatttat atagaaaaaa agtcttttca catgacaaat 3300  
 gacactctca caccagtctt agccctagta gtttttttagg ttggaccaga 3350  
 ggaagcaggt taaatgagac ctgtcctctg ctgcactcag aaaaaatagg 3400  
 cagtccctga tgctcagatc ttagccttga tattaatagt tgagaccacc 3450  
 taccacaat gcagcctata ctccaagac tacaaagtta ccatcgcaaa 3500  
 ggaaagggtta ttccagtaaa aggaaatagt tttctcaacc atttaaaaat 3550  
 attcttctga actcatcaaa gtagaagagc cccaacctt ttctctctgc 3600  
 cttcaagaag gcagacattt ggtatgattt agcatcaaca acacatttat 3650  
 gagtatatgt aagtaatcag aggggcaaat gccacttggt attcctccca 3700  
 agttttccaa gcaagtacac acagatctct ggtaggatta ggggccactt 3750  
 gtgtttccgg cttatttttag tgcactgtgc agcaagtttg atgcctagtc 3800  
 tatctgacat ggcccagtag aacagggcat tgatggatca catgagatgg 3850  
 tagaaggaa atcatcacat acccctctca cagagaaaat tatcaaagaa 3900  
 ccagaaatta tatctgtttt ggagcaagag tgtcataatg tttcagggta 3950  
 gtcaaaataa acataaatta tctcctctag atgagtggcg atgttggtctg 4000  
 atttgggtct gccattgaca gaatgtcaaa taaaaggaa ttagctagaa 4050  
 tatgaccatt aaatgtgctt ctgaaatata ttttgagata ggtttagaat 4100

gtca 4104

<210> 278

<211> 522

<212> PRT

<213> Homo sapiens

<400> 278

Met Asp Phe Leu Leu Leu Gly Leu Cys Leu Tyr Trp Leu Leu Arg  
1 5 10 15

Arg Pro Ser Gly Val Val Leu Cys Leu Leu Gly Ala Cys Phe Gln  
20 25 30

Met Leu Pro Ala Ala Pro Ser Gly Cys Pro Gln Leu Cys Arg Cys  
35 40 45

Glu Gly Arg Leu Leu Tyr Cys Glu Ala Leu Asn Leu Thr Glu Ala  
50 55 60

Pro His Asn Leu Ser Gly Leu Leu Gly Leu Ser Leu Arg Tyr Asn  
65 70 75

Ser Leu Ser Glu Leu Arg Ala Gly Gln Phe Thr Gly Leu Met Gln  
80 85 90

Leu Thr Trp Leu Tyr Leu Asp His Asn His Ile Cys Ser Val Gln  
95 100 105

Gly Asp Ala Phe Gln Lys Leu Arg Arg Val Lys Glu Leu Thr Leu  
110 115 120

Ser Ser Asn Gln Ile Thr Gln Leu Pro Asn Thr Thr Phe Arg Pro  
125 130 135

Met Pro Asn Leu Arg Ser Val Asp Leu Ser Tyr Asn Lys Leu Gln  
140 145 150

Ala Leu Ala Pro Asp Leu Phe His Gly Leu Arg Lys Leu Thr Thr  
155 160 165

Leu His Met Arg Ala Asn Ala Ile Gln Phe Val Pro Val Arg Ile  
170 175 180

Phe Gln Asp Cys Arg Ser Leu Lys Phe Leu Asp Ile Gly Tyr Asn  
185 190 195

Gln Leu Lys Ser Leu Ala Arg Asn Ser Phe Ala Gly Leu Phe Lys  
200 205 210

Leu Thr Glu Leu His Leu Glu His Asn Asp Leu Val Lys Val Asn  
215 220 225

Phe Ala His Phe Pro Arg Leu Ile Ser Leu His Ser Leu Cys Leu  
230 235 240

Arg Arg Asn Lys Val Ala Ile Val Val Ser Ser Leu Asp Trp Val  
245 250 255

Trp Asn Leu Glu Lys Met Asp Leu Ser Gly Asn Glu Ile Glu Tyr	260	265	270
Met Glu Pro His Val Phe Glu Thr Val Pro His Leu Gln Ser Leu	275	280	285
Gln Leu Asp Ser Asn Arg Leu Thr Tyr Ile Glu Pro Arg Ile Leu	290	295	300
Asn Ser Trp Lys Ser Leu Thr Ser Ile Thr Leu Ala Gly Asn Leu	305	310	315
Trp Asp Cys Gly Arg Asn Val Cys Ala Leu Ala Ser Trp Leu Ser	320	325	330
Asn Phe Gln Gly Arg Tyr Asp Gly Asn Leu Gln Cys Ala Ser Pro	335	340	345
Glu Tyr Ala Gln Gly Glu Asp Val Leu Asp Ala Val Tyr Ala Phe	350	355	360
His Leu Cys Glu Asp Gly Ala Glu Pro Thr Ser Gly His Leu Leu	365	370	375
Ser Ala Val Thr Asn Arg Ser Asp Leu Gly Pro Pro Ala Ser Ser	380	385	390
Ala Thr Thr Leu Ala Asp Gly Gly Glu Gly Gln His Asp Gly Thr	395	400	405
Phe Glu Pro Ala Thr Val Ala Leu Pro Gly Gly Glu His Ala Glu	410	415	420
Asn Ala Val Gln Ile His Lys Val Val Thr Gly Thr Met Ala Leu	425	430	435
Ile Phe Ser Phe Leu Ile Val Val Leu Val Leu Tyr Val Ser Trp	440	445	450
Lys Cys Phe Pro Ala Ser Leu Arg Gln Leu Arg Gln Cys Phe Val	455	460	465
Thr Gln Arg Arg Lys Gln Lys Gln Lys Gln Thr Met His Gln Met	470	475	480
Ala Ala Met Ser Ala Gln Glu Tyr Tyr Val Asp Tyr Lys Pro Asn	485	490	495
His Ile Glu Gly Ala Leu Val Ile Ile Asn Glu Tyr Gly Ser Cys	500	505	510
Thr Cys His Gln Gln Pro Ala Arg Glu Cys Glu Val	515	520	

<210> 279

<211> 46

<212> DNA

<213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 279  
tccgtgcagg gggacgcctt tcagaaactg cgccgagtta aggaac 46

<210> 280  
<211> 709  
<212> DNA  
<213> Homo sapiens

<400> 280  
gtgcaaggag ccgaggcgag atgggcgtcc tgggccgggt cctgctgtgg 50  
ctgcagctct gcgcactgac ccaggcggtc tccaaactct gggcccccaa 100  
cacggacttc gacgtcgcag ccaactggag ccagaaccgg accccgtgcg 150  
ccggcggcgc cgttgagttc ccggcggaca agatgggtgtc agtcctggtg 200  
caagaaggtc acgccgtctc agacatgctc ctgccgtgg atggggaaact 250  
cgtcctggct tcaggagccg gattcggcgt ctcagacgtg ggctcgcacc 300  
tggactgtgg cgcgggcgaa cctgccgtct tccgcgactc tgaccgcttc 350  
tcctggcatg acccgcacct gtggcgctct ggggacgagg cacctggcct 400  
cttcttcgtg gacgccgagc gcgtgccctg ccgccacgac gacgtcttct 450  
ttccgcctag tgctccttc cgcgtagggc tcggccctgg cgctagcccc 500  
gtgcgtgtcc gcagcatctc ggctctgggc cggacgttca cgcgcgacga 550  
ggacctggct gttttcctgg cgtcccgcgc gggccgccta cgcttccacg 600  
ggccgggcgc gctgagcgtg ggccccgagg actgcgcgga cccgtcgggc 650  
tgcgctctgcg gcaacgcgga ggcgagccg tggatctgcg cggccctgct 700  
ccagcccct 709

<210> 281  
<211> 229  
<212> PRT  
<213> Homo sapiens

<400> 281  
Met Gly Val Leu Gly Arg Val Leu Leu Trp Leu Gln Leu Cys Ala  
1 5 10 15  
Leu Thr Gln Ala Val Ser Lys Leu Trp Val Pro Asn Thr Asp Phe  
20 25 30  
Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
35 40 45  
Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val

	50		55		60
Gln Glu Gly His	Ala Val Ser Asp Met	Leu Leu Pro Leu Asp	Gly		
	65	70	75		
Glu Leu Val Leu	Ala Ser Gly Ala Gly	Phe Gly Val Ser Asp	Val		
	80	85	90		
Gly Ser His Leu	Asp Cys Gly Ala Gly	Glu Pro Ala Val Phe	Arg		
	95	100	105		
Asp Ser Asp Arg	Phe Ser Trp His Asp	Pro His Leu Trp Arg	Ser		
	110	115	120		
Gly Asp Glu Ala	Pro Gly Leu Phe Phe	Val Asp Ala Glu Arg	Val		
	125	130	135		
Pro Cys Arg His	Asp Asp Val Phe Phe	Pro Pro Ser Ala Ser	Phe		
	140	145	150		
Arg Val Gly Leu	Gly Pro Gly Ala Ser	Pro Val Arg Val Arg	Ser		
	155	160	165		
Ile Ser Ala Leu	Gly Arg Thr Phe Thr	Arg Asp Glu Asp Leu	Ala		
	170	175	180		
Val Phe Leu Ala	Ser Arg Ala Gly Arg	Leu Arg Phe His Gly	Pro		
	185	190	195		
Gly Ala Leu Ser	Val Gly Pro Glu Asp	Cys Ala Asp Pro Ser	Gly		
	200	205	210		
Cys Val Cys Gly	Asn Ala Glu Ala Gln	Pro Trp Ile Cys Ala	Ala		
	215	220	225		
Leu Leu Gln Pro					

<210> 282

<211> 644

<212> DNA

<213> Homo sapiens

<400> 282

atcgcatcaa ttgggagtag catcttcctc atgggaccag tgaaacagct 50

gaagcgaatg tttgagccta ctggtttgat tgcaactatc atggtgctgt 100

tgtgttttgc acttaccctg tgttctgcct tttggtggca taacaaggga 150

cttgacttta tcttctgcat tttgcagtct ttggcattga cgtggtacag 200

cctttccttc ataccatttg caagggatgc tgtgaagaag tgttttgccg 250

tgtgtcttgc ataattcatg gccagtttta tgaagctttg gaaggcacta 300

tggacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350

tacagacatg tgccttttat cttgcagcaa tgtgttgctt gtgattcgaa 400  
catttgaggg ttacttttgg aagcaacaat acattctcga acctgaatgt 450  
cagtagcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500  
cctcatgtac ctgtttcctc tctggatgtt gtcccactga attcccatga 550  
atacaaacct attcagcaac agcaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283

<211> 77

<212> PRT

<213> Homo sapiens

<400> 283

Met	Gly	Pro	Val	Lys	Gln	Leu	Lys	Arg	Met	Phe	Glu	Pro	Thr	Arg
1				5					10					15
Leu	Ile	Ala	Thr	Ile	Met	Val	Leu	Leu	Cys	Phe	Ala	Leu	Thr	Leu
				20					25					30
Cys	Ser	Ala	Phe	Trp	Trp	His	Asn	Lys	Gly	Leu	Ala	Leu	Ile	Phe
				35					40					45
Cys	Ile	Leu	Gln	Ser	Leu	Ala	Leu	Thr	Trp	Tyr	Ser	Leu	Ser	Phe
				50					55					60
Ile	Pro	Phe	Ala	Arg	Asp	Ala	Val	Lys	Lys	Cys	Phe	Ala	Val	Cys
				65					70					75
Leu	Ala													

<210> 284

<211> 2623

<212> DNA

<213> Homo sapiens

<400> 284

ttgagcgcag gtgagctcct gcgcgttccg ggggcgttcc tccagtcacc 50  
ctcccgccgt taccgcggc gcgcccagg gagtctcctc cagaccctcc 100  
ctcccgttgc tccaaactaa tacggactga acggatcgct gcgagggtgg 150  
gagagaaaat tagggggaga aaggacagag agagcaacta ccatccatag 200  
ccagatagat tatcttacac tgaactgatc aagtactttg aaaatgactt 250  
cgaaatttat cttggtgtcc ttcatacttg ctgcactgag tctttcaacc 300  
accttttctc tccaactaga ccagcaaaag gttctactag tttcttttga 350  
tggattccgt tgggattact tatataaagt tccaacgccc cattttcatt 400

atattatgaa atatggtggt cactgaagc aagttactaa tgtttttatt 450  
 acaaaaacct accctaacca ttatactttg gtaactggcc tctttgcaga 500  
 gaatcatggg attggtgcaa atgatatggt tgatcctatt cggaacaaat 550  
 ctttctcctt ggatcacatg aatatttatg attccaagtt ttgggaagaa 600  
 gcgacaccaa tatggatcac aaaccagagg gcaggacata ctagtgggtgc 650  
 agccatgtgg cccggaacag atgtaaaaat acataagcgc tttcctactc 700  
 attacatgcc ttacaatgag tcagtttcat ttgaagatag agttgccaaa 750  
 attgttgaat ggtttacgtc aaaagagccc ataaatcttg gtcttctcta 800  
 ttgggaagac cctgatgaca tgggccacca tttgggacct gacagtccgc 850  
 tcatggggcc tgtcatttca gatattgaca agaagttagg atatctcata 900  
 caaatgctga aaaaggcaaa gttgtggaac actctgaacc taatcatcac 950  
 aagtgatcat ggaatgacgc agtgctctga ggaaaggta atagaacttg 1000  
 accagtacct ggataaagac cactataccc tgattgatca atctccagta 1050  
 gcagccatct tgccaaaaga aggtaaatct gatgaagtct atgaagcact 1100  
 aactcacgct catcctaatc ttactgttta caaaaaagaa gacgttccag 1150  
 aaagggtggca ttacaaatac aacagtcgaa ttcaaccaat catagcagtg 1200  
 gctgatgaag ggtggcacat ttacagaat aagtcagatg actttctggt 1250  
 aggcaaccac ggttacgata atgcgttagc agatatgcat ccaatatttt 1300  
 tagcccatgg tctgccttc agaaagaatt tctcaaaaga agccatgaac 1350  
 tccacagatt tgtaccact actatgccac ctctcaata tcaactgcat 1400  
 gccacacaat ggatcattct ggaatgtcca ggatctgctc aattcagcaa 1450  
 tgccaagggt ggtcccttat acacagagta ctatactcct ccctggtagt 1500  
 gttaaaccag cagaatatga ccaagagggg tcataccctt atttcatagg 1550  
 ggtctctctt ggcagcatta tagtgattgt attttttgta attttcatta 1600  
 agcatttaat tcacagtcaa atacctgcct tacaagatat gcatgctgaa 1650  
 atagctcaac cattattaca agcctaattg tactttgaag tggatttgca 1700  
 tattgaagtg gagattccat aattatgtca gtgttttaaag gtttcaaatt 1750  
 ctgggaaacc agttccaaac atctgcagaa accattaagc agttacatat 1800  
 ttaggtatac acacacacac acacacacac atacacacac acggaccaaa 1850

atacttacac ctgcaaagga ataaagatgt gagagtatgt ctccattggt 1900  
 cactgtagca tagggataga taagatcctg ctttatttgg acttggcgca 1950  
 gataatgtat atatttagca actttgcact atgtaaagta ccttatatat 2000  
 tgcactttta atttctctcc tgatgggtac tttaatttga aatgcacttt 2050  
 atggacagtt atgtcttata acttgattga aaatgacaac tttttgcacc 2100  
 catgtcacag aatacttggt acgcattggt caaactgaag gaaatttcta 2150  
 ataatccga ataatgaaca tagaaatcta tctccataaa ttgagagaag 2200  
 aagaaggtga taagtgttga aaattaaatg tgataacctt tgaaccttga 2250  
 attttggaga tgtattccca acagcagaat gcaactgtgg gcatttcttg 2300  
 tcttatttct tccagagaa cgtgggtttc atttattttt ccctcaaaag 2350  
 agagtcaa atctgacagat tcgttctaaa tatattgttt ctgtcataaa 2400  
 attattgtga tttcctgatg agtcatatta ctgtgatttt cataataatg 2450  
 aagacaccat gaatatactt ttcttctata tagttcagca atggcctgaa 2500  
 tagaagcaac caggcaccat ctcagcaatg ttttctcttg tttgtaatta 2550  
 tttgctcctt tgaaaattaa atcactatta attacattaa aaatcaaatt 2600  
 ggataaaaaa aaaaaaaaaa aaa 2623

<210> 285

<211> 477

<212> PRT

<213> Homo sapiens

<400> 285

Met	Thr	Ser	Lys	Phe	Ile	Leu	Val	Ser	Phe	Ile	Leu	Ala	Ala	Leu
1				5					10					15
Ser	Leu	Ser	Thr	Thr	Phe	Ser	Leu	Gln	Leu	Asp	Gln	Gln	Lys	Val
				20					25					30
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys
				35					40					45
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His
				50					55					60
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn
				65					70					75
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile
				80					85					90
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser
				95					100					105

Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala	
				110					115					120	
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly	
				125					130					135	
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe	
				140					145					150	
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp	
				155					160					165	
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile	
				170					175					180	
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His	
				185					190					195	
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp	
				200					205					210	
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala	
				215					220					225	
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly	
				230					235					240	
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr	
				245					250					255	
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala	
				260					265					270	
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala	
				275					280					285	
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp	
				290					295					300	
Val	Pro	Glu	Arg	Trp	His	Tyr	Lys	Tyr	Asn	Ser	Arg	Ile	Gln	Pro	
				305					310					315	
Ile	Ile	Ala	Val	Ala	Asp	Glu	Gly	Trp	His	Ile	Leu	Gln	Asn	Lys	
				320					325					330	
Ser	Asp	Asp	Phe	Leu	Leu	Gly	Asn	His	Gly	Tyr	Asp	Asn	Ala	Leu	
				335					340					345	
Ala	Asp	Met	His	Pro	Ile	Phe	Leu	Ala	His	Gly	Pro	Ala	Phe	Arg	
				350					355					360	
Lys	Asn	Phe	Ser	Lys	Glu	Ala	Met	Asn	Ser	Thr	Asp	Leu	Tyr	Pro	
				365					370					375	
Leu	Leu	Cys	His	Leu	Leu	Asn	Ile	Thr	Ala	Met	Pro	His	Asn	Gly	
				380					385					390	
Ser	Phe	Trp	Asn	Val	Gln	Asp	Leu	Leu	Asn	Ser	Ala	Met	Pro	Arg	

	395		400		405
Val Val Pro Tyr Thr Gln Ser Thr Ile	Leu Leu Pro Gly Ser Val				
410	415	420			
Lys Pro Ala Glu Tyr Asp Gln Glu Gly	Ser Tyr Pro Tyr Phe Ile				
425	430	435			
Gly Val Ser Leu Gly Ser Ile Ile Val	Ile Val Phe Phe Val Ile				
440	445	450			
Phe Ile Lys His Leu Ile His Ser Gln	Ile Pro Ala Leu Gln Asp				
455	460	465			
Met His Ala Glu Ile Ala Gln Pro Leu	Leu Gln Ala				
470	475				

<210> 286  
 <211> 1337  
 <212> DNA  
 <213> Homo sapiens

<400> 286  
 ggatttttgt gatccgcgat tcgctccac gggcgggacc tttgtaactg 50  
 cgggaggccc aggacaggcc caccctgcgg ggcgggaggc agccggggtg 100  
 agggagggtga agaaaccaag acgcagagag gccaaagccc ttgccttggg 150  
 tcacacagcc aaaggaggca gagccagaac tcacaaccag atccagaggc 200  
 aacagggaca tggccacctg ggacgaaaag gcagtcaccc gcagggccaa 250  
 ggtggctccc gctgagagga tgagcaagtt cttaaggcac ttcacggtcg 300  
 tgggagacga ctaccatgcc tggaacatca actacaagaa atggggagaat 350  
 gaagaggagg aggaggagga ggagcagcca ccaccacac cagtctcagg 400  
 cgaggaaggc agagctgcag cccctgacgt tgcccctgcc cctggccccg 450  
 caccagggc ccccttgac ttcaggggca tgttgaggaa actgttcagc 500  
 tcccacaggt ttcaggtcat catcatctgc ttggtggttc tggatgccct 550  
 cctggtgctt gctgagctca tcctggacct gaagatcatc cagcccgaca 600  
 agaataacta tgctgccatg gtattccact acatgagcat caccatcttg 650  
 gtctttttta tgatggagat catctttaa ttatttgtct tccgcctgag 700  
 ttctttcacc acaagtttga gatcctggat gcccgtcgtg gtggtggtct 750  
 cattcatcct ggacattgtc ctctgttcc aggagcacca gtttgaggct 800  
 ctgggcctgc tgattctgct ccggctgtgg cgggtggccc ggatcatcaa 850  
 tgggattatc atctcagtta agacacgttc agaacggcaa ctcttaaggt 900

100-443887-100

<211> 255

<213> Homo sapiens

Met Ala Thr Trp Asp Glu Lys Ala Val Thr Arg Arg Ala Lys Val  
1 5 10 15

Ala Pro Ala Glu Arg Met Ser Lys Phe Leu Arg His Phe Thr Val  
20 25 30

Val Gly Asp Asp Tyr His Ala Trp Asn Ile Asn Tyr Lys Lys Trp  
35 40 45

Glu Asn Glu Glu Glu Glu Glu Glu Glu Glu Gln Pro Pro Pro Thr  
50 55 60

Pro Val Ser Gly Glu Glu Gly Arg Ala Ala Ala Pro Asp Val Ala  
65 70 75

Pro Ala Pro Gly Pro Ala Pro Arg Ala Pro Leu Asp Phe Arg Gly  
80 85 90

Met Leu Arg Lys Leu Phe Ser Ser His Arg Phe Gln Val Ile Ile  
95 100 105

Ile Cys Leu Val Val Leu Asp Ala Leu Leu Val Leu Ala Glu Leu  
110 115 120

Ile Leu Asp Leu Lys Ile Ile Gln Pro Asp Lys Asn Asn Tyr Ala  
125 130 135

Ala Met Val Phe His Tyr Met Ser Ile Thr Ile Leu Val Phe Phe  
140 145 150

Met Met Glu Ile Ile Phe Lys Leu Phe Val Phe Arg Leu Ser Ser  
155 160 165

276



[illegible]

<211> 3334

<212> DNA

<213> Homo sapiens

<400> 288

277

cacgagagggc ttgtggcagg gtccttggca ggggccatcg cccagagcag 950  
 catctaccca atggagggtcc tgaagacccg gatggcgctg cggaagacag 1000  
 gccagtactc aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050  
 ggggtggccg ccttctacaa aggctatgtc cccaacatgc tgggcatcat 1100  
 cccctatgcc ggcacgacc ttgcagtcta cgagacgctc aagaatgcct 1150  
 ggctgcagca ctatgcagtg aacagcgcgg accccggcgt gtttgtgctc 1200  
 ctggcctgtg gcaccatgtc cagtacctgt ggccagctgg ccagctaccc 1250  
 cctggcccta gtcaggaccc ggatgcaggc gcaagcctct attgagggcg 1300  
 ctccggagggt gaccatgagc agcctcttca aacatatcct gcggaccgag 1350  
 ggggccttcg ggctgtacag ggggctggcc cccaacttca tgaaggatcat 1400  
 cccagctgtg agcatcagct acgtggtcta cgagaacctg aagatcaccc 1450  
 tgggcgtgca gtcgcggtga cggggggagg gccgcccggc agtggactcg 1500  
 ctgatcctgg gccgcagcct ggggtgtgca gccatctcat tctgtgaatg 1550  
 tgccaacact aagctgtctc gagccaagct gtgaaaacct tagacgcacc 1600  
 cgcagggagg gtggggagag ctggcaggcc cagggttctg cctgctgacc 1650  
 ccagcagacc ctctgttgg ttccagcgaa gaccacaggc attccttagg 1700  
 gtccagggtc agcaggctcc gggctcacat gtgtaaggac aggacatttt 1750  
 ctgcagtgcc tgccaatagt gagcttggag cctggaggcc ggcttagttc 1800  
 ttccatttca cccttgcagc cagctgttgg ccacggcccc tgccctctgg 1850  
 tctgccgtgc atctccctgt gccctcttgc tgccctgctg tctgctgagg 1900  
 taagggtgga ggagggtac agccacatc ccacccctc gtccaatccc 1950  
 ataatccatg atgaaagggt aggtcacgtg gcctcccagg cctgacttcc 2000  
 caacctacag cattgacgcc aacttggctg tgaaggaaga ggaaaggatc 2050  
 tggccttctg gtcactggca tctgagccct gctgatggct ggggctctcg 2100  
 ggcattgctt ggagtgcagg gggctcgggc tgcctggcct ggctgcacag 2150  
 aaggcaagtg ctggggctca tgggtgctctg agctggcctg gaccctgtca 2200  
 ggatggggcc cacctcagaa ccaaactcac tgtccccact gtggcatgag 2250  
 ggcagtggag caccatgttt gagggcgaa ggcagagcgt ttgtgtgttc 2300  
 tggggaggga aggaaaagggt gttggaggcc ttaattatgg actgttggga 2350

aaagggtttt gtccagaagg acaagccgga caaatgagcg acttctgtgc 2400  
 ttccagagga agacgagggga gcaggagctt ggctgactgc tcagagtctg 2450  
 ttctgacgcc ctggggggttc ctgtccaacc ccagcagggg cgcagcggga 2500  
 ccagccccac attccacttg tgtcactgct tggaacctat ttattttgta 2550  
 tttatttgaa cagagttatg tcctaactat ttttatagat ttgtttaatt 2600  
 aatagcttgt cattttcaag ttcatttttt attcatattt atgttcatgg 2650  
 ttgattgtac cttcccaagc ccgcccagtg ggatgggagg aggaggagaa 2700  
 ggggggcctt gggccgctgc agtcacatct gtccagagaa attccttttg 2750  
 ggactggagg cagaaaagcg gccagaaggc agcagccctg gtccttttcc 2800  
 tttggcaggt tggggaaggg cttgccccca gccttaggat ttcagggttt 2850  
 gactgggggc gtggagagag agggaggaac ctcaataacc ttgaaggtgg 2900  
 aatccagtta tttcctgctc tgcgagggtt tctttatttc actcttttct 2950  
 gaatgtcaag gcagtgaggt gcctctcact gtgaatttgt ggtgggcggg 3000  
 ggctggagga gaggggtggg ggctggctcc gtccctccca gccttctgct 3050  
 gcccttgctt aacaatgccg gccaaactggc gacctcacgg ttgcacttcc 3100  
 attccaccag aatgacctga tgaggaaatc ttcaatagga tgcaaagatc 3150  
 aatgcaaaaa ttgttatata tgaacatata actggagtcg tcaaaaagca 3200  
 aattaagaaa gaattggacg ttagaagttg tcattttaaag cagccttcta 3250  
 ataaagtgtg ttcaaagctg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 3334

<210> 289

<211> 469

<212> PRT

<213> Homo sapiens

<400> 289

Met	Leu	Cys	Leu	Cys	Leu	Tyr	Val	Pro	Val	Ile	Gly	Glu	Ala	Gln
1				5					10					15
Thr	Glu	Phe	Gln	Tyr	Phe	Glu	Ser	Lys	Gly	Leu	Pro	Ala	Glu	Leu
			20						25					30
Lys	Ser	Ile	Phe	Lys	Leu	Ser	Val	Phe	Ile	Pro	Ser	Gln	Glu	Phe
			35						40					45
Ser	Thr	Tyr	Arg	Gln	Trp	Lys	Gln	Lys	Ile	Val	Gln	Ala	Gly	Asp
			50						55					60

Lys	Asp	Leu	Asp	Gly	Gln	Leu	Asp	Phe	Glu	Glu	Phe	Val	His	Tyr	
				65					70					75	
Leu	Gln	Asp	His	Glu	Lys	Lys	Leu	Arg	Leu	Val	Phe	Lys	Ile	Leu	
				80					85					90	
Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala	Gln	Glu	Ile	Met	Gln	
				95					100					105	
Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu	Gln	Gln	Ala	Glu	
				110					115					120	
Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met	Thr	Ile	Asp	
				125					130					135	
Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val	Glu	Asn	
				140					145					150	
Ile	Pro	Glu	Ile	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	Asp	
				155					160					165	
Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu	
				170					175					180	
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	
				185					190					195	
Ala	Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	
				200					205					210	
Lys	Val	Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	
				215					220					225	
Ile	Val	Gly	Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	
				230					235					240	
Ser	Leu	Trp	Arg	Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	
				245					250					255	
Glu	Ser	Ala	Ile	Lys	Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	
				260					265					270	
Val	Gly	Ser	Asp	Gln	Glu	Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	
				275					280					285	
Ala	Gly	Ser	Leu	Ala	Gly	Ala	Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	
				290					295					300	
Met	Glu	Val	Leu	Lys	Thr	Arg	Met	Ala	Leu	Arg	Lys	Thr	Gly	Gln	
				305					310					315	
Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg	Arg	Ile	Leu	Ala	Arg	Glu	
				320					325					330	
Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val	Pro	Asn	Met	Leu	Gly	
				335					340					345	
Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu	Thr	Leu	



cagctttgag ctgaactctg agaatgtgac catgaagggtt gtgtctgtgc 700  
tctacaatgt tacgatcaac aacacatact cctgtatgat tgaaaatgac 750  
attgccaaag caacagggga tatcaaagt acagaatcgg agatcaaaag 800  
gcgaggtcac ctacagctgc taaactcaaa ggcttctctg tgtgtctctt 850  
ctttctttgc catcagctgg gcacttctgc ctctcagccc ttacctgatg 900  
ctaaaataat gtgccttggc cacaaaaaag catgcaaagt cattgttaca 950  
acagggatct acagaactat ttcaccacca gatatgacct agttttatat 1000  
ttctggggagg aaatgaattc atatctagaa gtctggagtg agcaaacaag 1050  
agcaagaaac aaaaagaagc caaaagcaga aggctccaat atgaacaaga 1100  
taaactctatc ttcaaagaca tattagaagt tgggaaaata attcatgtga 1150  
actagacaag tgtgttaaga gtgataagta aaatgcacgt ggagacaagt 1200  
gcatccccag atctcaggga cctccccctg cctgtcacct ggggagtgag 1250  
aggacaggat agtgcattgt ctttgtctct gaatttttag ttatatgtgc 1300  
tgtaatgttg ctctgaggaa gcccttgaa agtctatccc aacatatcca 1350  
catcttatat tccacaaatt aagctgtagt atgtacccta agacgctgct 1400  
aattgactgc cacttcgcaa ctcaggggcg gctgcatttt agtaatgggt 1450  
caaatgattc actttttatg atgcttccaa aggtgccttg gcttctcttc 1500  
ccaactgaca aatgccaaag ttgagaaaaa tgatcataat tttagcataa 1550  
acagagcagt cggggacacc gattttataa ataaactgag caccttcttt 1600  
ttaaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
aaaaaaaa 1658

<210> 291

<211> 282

<212> PRT

<213> Homo sapiens

<400> 291

Met	Ala	Ser	Leu	Gly	Gln	Ile	Leu	Phe	Trp	Ser	Ile	Ile	Ser	Ile
1				5					10					15
Ile	Ile	Ile	Leu	Ala	Gly	Ala	Ile	Ala	Leu	Ile	Ile	Gly	Phe	Gly
				20					25					30
Ile	Ser	Gly	Arg	His	Ser	Ile	Thr	Val	Thr	Thr	Val	Ala	Ser	Ala
				35					40					45
Gly	Asn	Ile	Gly	Glu	Asp	Gly	Ile	Leu	Ser	Cys	Thr	Phe	Glu	Pro

	50		55		60
Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly	65		70		75
Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu	80		85		90
Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala	95		100		105
Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val	110		115		120
Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser	125		130		135
Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe	140		145		150
Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr	155		160		165
Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln Pro Thr Val Val	170		175		180
Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser Glu Val Ser	185		190		195
Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met Lys Val	200		205		210
Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser Cys	215		220		225
Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val	230		235		240
Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn	245		250		255
Ser Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile Ser Trp	260		265		270
Ala Leu Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys	275		280		

<210> 292

<211> 1484

<212> DNA

<213> Homo sapiens

<400> 292

gaatttgtag aagacagcgg cgttgccatg gcggcgtctc tggggcaggt 50

gttggtctctg gtgctggtgg ccgctctgtg ggggtggcacg cagccgctgc 100

tgaagcgggc ctccgccggc ctgcagcggg ttcattgagcc gacctgggccc 150





<400> 293

Met	Ala	Ala	Ser	Leu	Gly	Gln	Val	Leu	Ala	Leu	Val	Leu	Val	Ala	
1				5					10					15	
Ala	Leu	Trp	Gly	Gly	Thr	Gln	Pro	Leu	Leu	Lys	Arg	Ala	Ser	Ala	
				20					25					30	
Gly	Leu	Gln	Arg	Val	His	Glu	Pro	Thr	Trp	Ala	Gln	Gln	Leu	Leu	
				35					40					45	
Gln	Glu	Met	Lys	Thr	Leu	Phe	Leu	Asn	Thr	Glu	Tyr	Leu	Met	Pro	
				50					55					60	
Phe	Leu	Leu	Asn	Gln	Cys	Gly	Ser	Leu	Leu	Tyr	Tyr	Leu	Thr	Leu	
				65					70					75	
Ala	Ser	Thr	Asp	Leu	Thr	Leu	Ala	Val	Pro	Ile	Cys	Asn	Ser	Leu	
				80					85					90	
Ala	Ile	Ile	Phe	Thr	Leu	Ile	Val	Gly	Lys	Ala	Leu	Gly	Glu	Asp	
				95					100					105	
Ile	Gly	Gly	Lys	Arg	Lys	Leu	Asp	Tyr	Cys	Glu	Cys	Gly	Thr	Gln	
				110					115					120	
Leu	Cys	Gly	Ser	Arg	His	Thr	Cys	Val	Ser	Ser	Phe	Pro	Glu	Pro	
				125					130					135	
Ile	Ser	Pro	Glu	Trp	Val	Arg	Thr	Arg	Pro	Phe	Pro	Ile	Leu	Pro	
				140					145					150	
Phe	Pro	Leu	Gln	Leu	Phe	Cys	Phe	Leu	Val	Ala	Ile	Arg	Val	Pro	
				155					160					165	
Phe	Pro	Trp	Thr	Val	Trp	Arg	Lys	Thr	Glu	Ala	Gly	Val	Trp	Asp	
				170					175					180	

<210> 294

<211> 1164

<212> DNA

<213> Homo sapiens

<400> 294

cttctgtagg acagtcacca ggccagatcc agaagcctct ctaggctcca 50

gctttctctg tggaagatga cagcaattat agcaggaccc tgccaggctg 100

tcgaaaagat tccgcaataa aactttgcca gtgggaagta cctagtgaaa 150

cggcctaaga tgccacttct tctcatgtcc caggcttgag gccctgtggt 200

ccccatcctt gggagaagtc agctccagca ccatgaaggg catcctcggt 250

gctggtatca ctgcagtgtc tggtgcagct gtagaatctc tgagctgcgt 300

gcagtgtaat tcatgggaaa aatcctgtgt caacagcatt gcctctgaat 350

gtccctcaca tgccaacacc agctgtatca gctcctcagc cagctcctct 400



Ser	Asn	Thr	Ser	Asp	Ala	Leu	Asp	Pro	Pro	Leu	Lys	Asn	Val	Ser
				110					115					120
Ser	Asn	Ala	Glu	Cys	Pro	Ala	Cys	Tyr	Glu	Ser	Asn	Gly	Thr	Ser
				125					130					135
Cys	Arg	Gly	Lys	Pro	Trp	Lys	Cys	Tyr	Glu	Glu	Glu	Gln	Cys	Val
				140					145					150
Phe	Leu	Val	Ala	Glu	Leu	Lys	Asn	Asp	Ile	Glu	Ser	Lys	Ser	Leu
				155					160					165
Val	Leu	Lys	Gly	Cys	Ser	Asn	Val	Ser	Asn	Ala	Thr	Cys	Gln	Phe
				170					175					180
Leu	Ser	Gly	Glu	Asn	Lys	Thr	Leu	Gly	Gly	Val	Ile	Phe	Arg	Lys
				185					190					195
Phe	Glu	Cys	Ala	Asn	Val	Asn	Ser	Leu	Thr	Pro	Thr	Ser	Ala	Pro
				200					205					210
Thr	Thr	Ser	His	Asn	Val	Gly	Ser	Lys	Ala	Ser	Leu	Tyr	Leu	Leu
				215					220					225
Ala	Leu	Ala	Ser	Leu	Leu	Leu	Arg	Gly	Leu	Leu	Pro			
				230					235					

<210> 296  
 <211> 1245  
 <212> DNA  
 <213> Homo sapiens

<400> 296  
 ggcctcgggtt caaacgaccc ggtgggtcta cagcggaagg gagggagcga 50  
 aggtaggagg cagggcttgc ctactggcc accctcccaa cccaagagc 100  
 ccagcccat ggtccccgcc gccggcgcc tgctgtgggt cctgctgctg 150  
 aatctgggtc cccgggcggc gggggcccaa ggctgaccc agactccgac 200  
 cgaaatgcag cgggtcagtt tacgctttgg gggcccatg acccgagct 250  
 accggagcac cgcccgact ggtcttcccc ggaagacaag gataatccta 300  
 gaggacgaga atgatgcat ggccgacgcc gaccgcctgg ctggaccagc 350  
 ggctgccgag ctcttgccg ccacggtgtc caccggcttt agccggtcgt 400  
 ccgccattaa cgaggaggat gggcttcag aagaggggggt tgtgattaat 450  
 gccggaaagg atagaccag cagagagctt cccagtgcga ctccaatac 500  
 agcggggagt tccagcacga ggtttatagc caatagtcag gagcctgaaa 550  
 tcaggctgac ttcaagcctg ccgcgctccc ccgggaggtc tactgaggac 600  
 ctgccaggct cgcaggccac cctgagccag tggccacac ctgggtctac 650

cccgagccgg tggccgtcac cctcaccac agccatgcc tctcctgagg 700  
 atctgcggct ggtgctgatg ccctggggcc cgtggcactg ccactgcaag 750  
 tcgggcacca tgagccggag ccggtctggg aagctgcacg gcctttccgg 800  
 gcgccttcga gttggggcgc tgagccagct ccgcacggag cacaagcctt 850  
 gcacctatca acaatgtccc tgcaaccgac ttcgggaaga gtgccccctg 900  
 gacacaagtc tctgtactga caccaactgt gcctctcaga gcaccaccag 950  
 taccaggacc accactaccc ccttccccac catccacctc agaagcagtc 1000  
 ccagcctgcc acccgccagc ccctgcccag ccctggcttt ttggaaacgg 1050  
 gtcaggattg gcctggagga tatttggaat agcctctctt cagtgttcac 1100  
 agagatgcaa ccaatagaca gaaaccagag gtaatggcca cttcatccac 1150  
 atgaggagat gtcagtatct caacctctct tgccttttca atcctagcac 1200  
 ccactagata ttttttagtac agaaaaacaa aactggaaaa cacaa 1245

<210> 297

<211> 341

<212> PRT

<213> Homo sapiens

<400> 297

Met	Val	Pro	Ala	Ala	Gly	Ala	Leu	Leu	Trp	Val	Leu	Leu	Leu	Asn	1	5	10	15
Leu	Gly	Pro	Arg	Ala	Ala	Gly	Ala	Gln	Gly	Leu	Thr	Gln	Thr	Pro	20	25	30	
Thr	Glu	Met	Gln	Arg	Val	Ser	Leu	Arg	Phe	Gly	Gly	Pro	Met	Thr	35	40	45	
Arg	Ser	Tyr	Arg	Ser	Thr	Ala	Arg	Thr	Gly	Leu	Pro	Arg	Lys	Thr	50	55	60	
Arg	Ile	Ile	Leu	Glu	Asp	Glu	Asn	Asp	Ala	Met	Ala	Asp	Ala	Asp	65	70	75	
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Ala	Ala	Thr	Val	80	85	90	
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly	95	100	105	
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr	110	115	120	
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser	125	130	135	
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu				

0561094

```
<400> 298
cccgggtcga cccacgcgtc cggggagaaa ggatggccgg cctggcggcg 50
cggttggtcc tgctagctgg ggcagcggcg ctggcgagcg gctcccaggg 100
cgaccgtgag ccggtgtacc gcgactgcgt actgcagtgc gaagagcaga 150
actgctctgg gggcgctctg aatcacttcc gctcccgcc a gccaatctac 200
atgagtctag caggctggac ctgtcgggac gactgtaagt atgagtgtat 250
gtgggtcacc gttgggctct acctccagga aggtcacaaa gtgcctcagt 300
```

tccatggcaa gtggcccttc tcccggttcc tgttctttca agagccggca 350  
 tcggccgtgg cctcgtttct caatggcctg gccagcctgg tgatgctctg 400  
 ccgctaccgc accttcgtgc cagcctcctc ccccatgtac cacacctgtg 450  
 tggccttcgc ctgggtgtcc ctcaatgcat ggttctggtc cacagtcttc 500  
 cacaccaggg aactgacct cacagagaaa atggactact tctgtgcctc 550  
 cactgtcatc ctacactcaa tctacctgtg ctgcgtcagg accgtggggc 600  
 tgcagcacc agctgtggtc agtgccttc gggctctcct gctgctcatg 650  
 ctgaccgtgc acgtctccta cctgagcctc atccgcttcg actatggcta 700  
 caacctgggt gccaacgtgg ctattggcct ggtcaacgtg gtgtgggtggc 750  
 tggcctgggt cctgtggaac cagcggcggc tgcctcacgt gcgcaagtgc 800  
 gtgggtgggt tcttgtctgt gcaggggctg tcctgtctcg agctgcttga 850  
 cttcccaccg ctcttctggg tcctggatgc ccatgccatc tggcacatca 900  
 gcaccatccc tgtccacgtc ctctttttca gctttctgga agatgacagc 950  
 ctgtacctgc tgaaggaatc agaggacaag ttcaagctgg actgaagacc 1000  
 ttggagcgag tctgccccag tggggatcct gccccgccc tgctggcctc 1050  
 cttctctccc tcaacccttg agatgatttt ctcttttcaa cttcttgaac 1100  
 ttggacatga aggatgtggg ccagaaatca tgtggccagc ccacccctg 1150  
 ttggccctca ccagccttg agtctgttct aggggaaggc tcccagcatc 1200  
 tgggactcga gagtgggcag cccctctacc tcctggagct gaactggggg 1250  
 ggaactgagt gtgttcttag ctctaccggg aggacagctg cctgtttcct 1300  
 ccccaccagc ctctcccca catcccagc tgcctggctg ggtcctgaag 1350  
 ccctctgtct acctgggaga ccagggacca caggccttag ggatacaggg 1400  
 ggtccccttc tgttaccacc ccccaccctc ctccaggaca ccactaggtg 1450  
 gtgctggatg cttgttcttt ggccagccaa ggttcacggc gattctcccc 1500  
 atgggatctt gagggaccaa gctgctggga ttgggaagga gtttcaccct 1550  
 gaccgttgcc ctagccaggt tcccaggagg cctcaccata ctccctttca 1600  
 gggccagggc tccagcaagc ccagggcaag gatcctgtgc tgctgtctgg 1650  
 ttgagagcct gccaccgtgt gtcgggagtg tgggccaggc tgagtgcata 1700  
 ggtgacaggg ccgtgagcat gggcctgggt gtgtgtgagc tcaggcctag 1750

gtgcgcagtg tggagacggg tgttgtcggg gaagaggtgt ggcttcaaag 1800  
tgtgtgtgtg caggggggtg gtgtgttagc gtgggttagg ggaacgtgtg 1850  
tgcgcgtgct ggtgggcatg tgagatgagt gactgccggt gaatgtgtcc 1900  
acagttgaga ggttggagca ggatgagga atcctgtcac catcaataat 1950  
cacttggtga gcgccagctc tgcccaagac gccacctggg cggacagcca 2000  
ggagctctcc atggccaggc tgctgtgtg catgttccct gtctggtgcc 2050  
cctttgcccg cctcctgcaa acctcacagg gtccccacac aacagtgcc 2100  
tccagaagca gcccctcgga ggcagaggaa ggaaaatggg gatggctggg 2150  
gctctctcca tctcctttt ctccttgcc tgcgatggct ggccttcccc 2200  
tccaaaacct ccattcccct gctgccagcc cctttgccat agcctgattt 2250  
tggggaggag gaaggggcca tttgaggag aaggggagaa agcttatggc 2300  
tgggtctggt ttcttccctt cccagagggt cttactgttc cagggtggcc 2350  
ccagggcagg caggggccac actatgcctg tgccctggta aaggtgacct 2400  
ctgccattta ccagcagccc tggcatgttc ctgccccaca ggaatagaat 2450  
ggagggagct ccagaaaactt tccatcccaa aggcagtctc cgtggttgaa 2500  
gcagactgga tttttgtctt gcccctgacc ccttgtccct ctttgaggga 2550  
ggggagctat gctaggactc caacctcagg gactcgggtg gcctgcgcta 2600  
gcttcttttg atactgaaaa cttttaaggt gggaggggtg caagggatgt 2650  
gcttaataaa tcaattccaa gcctcaaaaa aaaaaaaaaa aa 2692

<210> 299

<211> 320

<212> PRT

<213> Homo sapiens

<400> 299

Met	Ala	Gly	Leu	Ala	Ala	Arg	Leu	Val	Leu	Leu	Ala	Gly	Ala	Ala
1				5					10					15
Ala	Leu	Ala	Ser	Gly	Ser	Gln	Gly	Asp	Arg	Glu	Pro	Val	Tyr	Arg
				20					25					30
Asp	Cys	Val	Leu	Gln	Cys	Glu	Glu	Gln	Asn	Cys	Ser	Gly	Gly	Ala
				35					40					45
Leu	Asn	His	Phe	Arg	Ser	Arg	Gln	Pro	Ile	Tyr	Met	Ser	Leu	Ala
				50					55					60
Gly	Trp	Thr	Cys	Arg	Asp	Asp	Cys	Lys	Tyr	Glu	Cys	Met	Trp	Val
				65					70					75

Thr	Val	Gly	Leu	Tyr	Leu	Gln	Glu	Gly	His	Lys	Val	Pro	Gln	Phe	
				80					85					90	
His	Gly	Lys	Trp	Pro	Phe	Ser	Arg	Phe	Leu	Phe	Phe	Gln	Glu	Pro	
				95					100					105	
Ala	Ser	Ala	Val	Ala	Ser	Phe	Leu	Asn	Gly	Leu	Ala	Ser	Leu	Val	
				110					115					120	
Met	Leu	Cys	Arg	Tyr	Arg	Thr	Phe	Val	Pro	Ala	Ser	Ser	Pro	Met	
				125					130					135	
Tyr	His	Thr	Cys	Val	Ala	Phe	Ala	Trp	Val	Ser	Leu	Asn	Ala	Trp	
				140					145					150	
Phe	Trp	Ser	Thr	Val	Phe	His	Thr	Arg	Asp	Thr	Asp	Leu	Thr	Glu	
				155					160					165	
Lys	Met	Asp	Tyr	Phe	Cys	Ala	Ser	Thr	Val	Ile	Leu	His	Ser	Ile	
				170					175					180	
Tyr	Leu	Cys	Cys	Val	Arg	Thr	Val	Gly	Leu	Gln	His	Pro	Ala	Val	
				185					190					195	
Val	Ser	Ala	Phe	Arg	Ala	Leu	Leu	Leu	Leu	Met	Leu	Thr	Val	His	
				200					205					210	
Val	Ser	Tyr	Leu	Ser	Leu	Ile	Arg	Phe	Asp	Tyr	Gly	Tyr	Asn	Leu	
				215					220					225	
Val	Ala	Asn	Val	Ala	Ile	Gly	Leu	Val	Asn	Val	Val	Trp	Trp	Leu	
				230					235					240	
Ala	Trp	Cys	Leu	Trp	Asn	Gln	Arg	Arg	Leu	Pro	His	Val	Arg	Lys	
				245					250					255	
Cys	Val	Val	Val	Val	Leu	Leu	Leu	Gln	Gly	Leu	Ser	Leu	Leu	Glu	
				260					265					270	
Leu	Leu	Asp	Phe	Pro	Pro	Leu	Phe	Trp	Val	Leu	Asp	Ala	His	Ala	
				275					280					285	
Ile	Trp	His	Ile	Ser	Thr	Ile	Pro	Val	His	Val	Leu	Phe	Phe	Ser	
				290					295					300	
Phe	Leu	Glu	Asp	Asp	Ser	Leu	Tyr	Leu	Leu	Lys	Glu	Ser	Glu	Asp	
				305					310					315	
Lys	Phe	Lys	Leu	Asp											
				320											

<210> 300

<211> 1674

<212> DNA

<213> Homo sapiens

<400> 300

ggccgcctgg aattgtggga gttgtgtctg ccactcggct gccggaggcc 50



gaagggtccgt gactatggct cccagagacc tgccttcac taggatggct 100  
cctctgggca tgctgcttgg gctgctgatg gccgcctgct tcaccttctg 150  
cctcagtcac cagaacctga aggagtttgc cctgaccaac ccagagaaga 200  
gcagcaccaa agaaacggag agaaaagaaa ccaaagccga ggaggagctg 250  
gatgccgaag tcctggaggt gttccacccg acgcatgagt ggcaggccct 300  
tcagccaggg caggctgtcc ctgcaggatc ccacgtacgg ctgaatcttc 350  
agactgggga aagagaggca aaactccaat atgaggacaa gttccgaaat 400  
aatttgaaag gcaaaaggct ggatatcaac accaacacct acacatctca 450  
ggatctcaag agtgacactg caaaattcaa ggaggggggca gagatggaga 500  
gttcaaagga agacaaggca aggcaggctg aggtaaagcg gctcttccgc 550  
cccattgagg aactgaagaa agactttgat gagctgaatg ttgtcattga 600  
gactgacatg cagatcatgg tacggctgat caacaagttc aatagttcca 650  
gtccagttt ggaagagaag attgctgcgc tctttgatct tgaatattat 700  
gtccatcaga tggacaatgc gcaggacctg ctttcctttg gtggtcttca 750  
agtggatgatc aatgggctga acagcacaga gcccctcgtg aaggagtatg 800  
ctgcgtttgt gctgggcgct gccttttcca gcaaccccaa ggtccagggtg 850  
gaggccatcg aagggggagc cctgcagaag ctgctggtca tcctggccac 900  
ggagcagccg ctactgcaa agaagaaggt cctgtttgca ctgtgctccc 950  
tgctgcgcca cttcccctat gccagcggc agttcctgaa gtcgggggg 1000  
ctgcagggtc tgaggaccct ggtgcaggag aagggcacgg aggtgctcgc 1050  
cgtgcgcgtg gtcacactgc tctacgacct ggtcacggag aagatgttcg 1100  
ccgaggagga ggctgagctg acccaggaga tgtccccaga gaagctgcag 1150  
cagtatcgcc aggtacacct cctgccaggc ctgtgggaac agggctggtg 1200  
cgagatcacg gccacacctc tggcgtgcc cgagcatgat gcccgtgaga 1250  
aggtgctgca gacactgggc gtctcctga ccacctgccg ggaccgctac 1300  
cgtcaggacc cccagctcgg caggacactg gccagcctgc aggtgagta 1350  
ccagggtgctg gccagcctgg agctgcagga tggtagggac gagggctact 1400  
tccaggagct gctgggctct gtcaacagct tgctgaagga gctgagatga 1450  
ggccccacac caggactgga ctgggatgcc gctagtgagg ctgaggggtg 1500

**SECRET**

<211> 461

<213> Homo sapiens

Met Ala Pro Gln Ser Leu Pro Ser Ser Arg Met Ala Pro Leu Gly  
1 5 10 15

Met Leu Leu Gly Leu Leu Met Ala Ala Cys Phe Thr Phe Cys Leu  
20 25 30

Ser His Gln Asn Leu Lys Glu Phe Ala Leu Thr Asn Pro Glu Lys  
35 40 45

Ser Ser Thr Lys Glu Thr Glu Arg Lys Glu Thr Lys Ala Glu Glu  
50 55 60

Glu Leu Asp Ala Glu Val Leu Glu Val Phe His Pro Thr His Glu  
65 70 75

Trp Gln Ala Leu Gln Pro Gly Gln Ala Val Pro Ala Gly Ser His  
80 85 90

Val Arg Leu Asn Leu Gln Thr Gly Glu Arg Glu Ala Lys Leu Gln  
95 100 105

Tyr Glu Asp Lys Phe Arg Asn Asn Leu Lys Gly Lys Arg Leu Asp  
110 115 120

Ile Asn Thr Asn Thr Tyr Thr Ser Gln Asp Leu Lys Ser Ala Leu  
125 130 135

Ala Lys Phe Lys Glu Gly Ala Glu Met Glu Ser Ser Lys Glu Asp  
140 145 150

Lys Ala Arg Gln Ala Glu Val Lys Arg Leu Phe Arg Pro Ile Glu  
155 160 165

Glu Leu Lys Lys Asp Phe Asp Glu Leu Asn Val Val Ile Glu Thr  
170 175 180

Asp Met Gln Ile Met Val Arg Leu Ile Asn Lys Phe Asn Ser Ser  
185 190 195

Ser Ser Ser Leu Glu Glu Lys Ile Ala Ala Leu Phe Asp Leu Glu  
200 205 210

Tyr Tyr Val His Gln Met Asp Asn Ala Gln Asp Leu Leu Ser Phe  
215 220 225

Gly Gly Leu Gln Val Val Ile Asn Gly Leu Asn Ser Thr Glu Pro	230	235	240
Leu Val Lys Glu Tyr Ala Ala Phe Val Leu Gly Ala Ala Phe Ser	245	250	255
Ser Asn Pro Lys Val Gln Val Glu Ala Ile Glu Gly Gly Ala Leu	260	265	270
Gln Lys Leu Leu Val Ile Leu Ala Thr Glu Gln Pro Leu Thr Ala	275	280	285
Lys Lys Lys Val Leu Phe Ala Leu Cys Ser Leu Leu Arg His Phe	290	295	300
Pro Tyr Ala Gln Arg Gln Phe Leu Lys Leu Gly Gly Leu Gln Val	305	310	315
Leu Arg Thr Leu Val Gln Glu Lys Gly Thr Glu Val Leu Ala Val	320	325	330
Arg Val Val Thr Leu Leu Tyr Asp Leu Val Thr Glu Lys Met Phe	335	340	345
Ala Glu Glu Glu Ala Glu Leu Thr Gln Glu Met Ser Pro Glu Lys	350	355	360
Leu Gln Gln Tyr Arg Gln Val His Leu Leu Pro Gly Leu Trp Glu	365	370	375
Gln Gly Trp Cys Glu Ile Thr Ala His Leu Leu Ala Leu Pro Glu	380	385	390
His Asp Ala Arg Glu Lys Val Leu Gln Thr Leu Gly Val Leu Leu	395	400	405
Thr Thr Cys Arg Asp Arg Tyr Arg Gln Asp Pro Gln Leu Gly Arg	410	415	420
Thr Leu Ala Ser Leu Gln Ala Glu Tyr Gln Val Leu Ala Ser Leu	425	430	435
Glu Leu Gln Asp Gly Glu Asp Glu Gly Tyr Phe Gln Glu Leu Leu	440	445	450
Gly Ser Val Asn Ser Leu Leu Lys Glu Leu Arg	455	460	

<210> 302

<211> 2136

<212> DNA

<213> Homo sapiens

<400> 302

ttcggcttcc gtagaggaag tggcgcggac cttcatttgg ggtttcgggtt 50

cccccccttc cccttccccg gggctctgggg gtgacattgc accgcgcccc 100

tcgtggggtc gcgttgccac cccacgcgga ctccccagct ggcgcgcccc 150  
tcccatttgc ctgtcctggt caggccccca ccccccttcc cacctgacca 200  
gccatggggg ctgcggtggt tttcggctgc actttcgtcg cgttcggccc 250  
ggccttcgcg cttttcttga tcaactgtggc tggggacccg cttcgcgtta 300  
tcacctggt cgcaggggca tttttctggc tggctctccct gctcctggcc 350  
tctgtggtct ggttcatctt ggtccatgtg accgaccggt cagatgcccg 400  
gtccagtagc ggctcctga tttttggtgc tgctgtctct gtccttctac 450  
aggaggtggt ccgctttgcc tactacaagc tgcttaagaa ggcatgata 500  
gggttagcat cgtcgtgtag ggacggaaga tcaacctct ccatccgcca 550  
gatggcctat gtttctggc tctccttcgg tatcatcagt ggtgtcttct 600  
ctgttatcaa tattttggct gatgcacttg ggccagggtt ggttgggata 650  
catggagact caccctatta cttcctgact tcagcctttc tgacagcagc 700  
cattatcctg ctccatacct tttggggagt tgtgttcttt gatgcctgtg 750  
agaggagacg gtactgggct ttgggcctgg tgggtgggag tcacctactg 800  
acatcgggac tgacattcct gaacctcctg tatgaggcca gcctgctgcc 850  
catctatgca gtcactgttt ccatggggct ctgggccttc atcacagctg 900  
gagggctcct ccgaagtatt cagcgcagcc tcttgtgtaa ggactgacta 950  
cctggactga tcgcttgaca gatccacact gcctgtccac tgcccatgac 1000  
tgagcccagc cccagcccgg gtccattgcc cacattctct gtctccttct 1050  
cgtcgggtcta cccactacc tccagggttt tgctttgtcc ttttgtgacc 1100  
gttagtctct aagctttacc aggagcagcc tgggttcagc cagtcatgta 1150  
ctggtggggt tgaatctgca cttatcccca ccacctggg acccccttgt 1200  
tgtgtccagg actccccctg tgtcagtgtc ctgctctcac cctgccaag 1250  
actcacctcc cttccccctc gcaggccgac ggacaggaga cagtcgggtg 1300  
atggtgtatt ctgcctgcg catccacccc gaggactgag ggaacctagg 1350  
ggggacccct gggcctgggg tgccctcctg atgtcctcgc cctgtatttc 1400  
tccatctcca gttctggaca gtgcaggttg ccaagaaaag ggacctagtt 1450  
tagccattgc cctggagatg aaattaatgg aggtcaagg atagatgagc 1500  
tctgagtttc tcagtactcc ctcaagactg gacatcttgg tctttttctc 1550

aggcctgagg gggaaccatt tttggtgtga taaataccct aaactgcctt 1600  
 tttttctttt ttgaggtggg gggagggagg aggtatattg gaactcttct 1650  
 aacctccttg ggctatatatt tctctcctcg agttgctcct catggctggg 1700  
 ctcatttcgg tccctttctc cttggtccca gaccttgggg gaaaggaagg 1750  
 aagtgcattg ttgggaactg gcattactgg aactaatggt tttaacctcc 1800  
 ttaaccacca gcacccctcc tctccccaag gtgaagtgga ggggtgctgtg 1850  
 gtgagctggc cactccagag ctgcagtgcc actggaggag tcagactacc 1900  
 atgacatcgt agggaaggag gggagatttt tttgtagttt ttaattgggg 1950  
 tgtggggagg gcggggagggt tttctataaa ctgtatcatt ttctgctgag 2000  
 ggtggagtgt cccatccttt taatcaagggt gattgtgatt ttgactaata 2050  
 aaaaagaatt tgtaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2100  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2136

<210> 303

<211> 247

<212> PRT

<213> Homo sapiens

<400> 303

Met	Gly	Ala	Ala	Val	Phe	Phe	Gly	Cys	Thr	Phe	Val	Ala	Phe	Gly
1				5					10					15
Pro	Ala	Phe	Ala	Leu	Phe	Leu	Ile	Thr	Val	Ala	Gly	Asp	Pro	Leu
				20					25					30
Arg	Val	Ile	Ile	Leu	Val	Ala	Gly	Ala	Phe	Phe	Trp	Leu	Val	Ser
				35					40					45
Leu	Leu	Leu	Ala	Ser	Val	Val	Trp	Phe	Ile	Leu	Val	His	Val	Thr
				50					55					60
Asp	Arg	Ser	Asp	Ala	Arg	Leu	Gln	Tyr	Gly	Leu	Leu	Ile	Phe	Gly
				65					70					75
Ala	Ala	Val	Ser	Val	Leu	Leu	Gln	Glu	Val	Phe	Arg	Phe	Ala	Tyr
				80					85					90
Tyr	Lys	Leu	Leu	Lys	Lys	Ala	Asp	Glu	Gly	Leu	Ala	Ser	Leu	Ser
				95					100					105
Glu	Asp	Gly	Arg	Ser	Pro	Ile	Ser	Ile	Arg	Gln	Met	Ala	Tyr	Val
				110					115					120
Ser	Gly	Leu	Ser	Phe	Gly	Ile	Ile	Ser	Gly	Val	Phe	Ser	Val	Ile
				125					130					135
Asn	Ile	Leu	Ala	Asp	Ala	Leu	Gly	Pro	Gly	Val	Val	Gly	Ile	His

	140		145		150
Gly Asp Ser Pro Tyr Tyr Phe Leu Thr Ser Ala Phe Leu Thr Ala					
	155		160		165
Ala Ile Ile Leu Leu His Thr Phe Trp Gly Val Val Phe Phe Asp					
	170		175		180
Ala Cys Glu Arg Arg Arg Tyr Trp Ala Leu Gly Leu Val Val Gly					
	185		190		195
Ser His Leu Leu Thr Ser Gly Leu Thr Phe Leu Asn Pro Trp Tyr					
	200		205		210
Glu Ala Ser Leu Leu Pro Ile Tyr Ala Val Thr Val Ser Met Gly					
	215		220		225
Leu Trp Ala Phe Ile Thr Ala Gly Gly Ser Leu Arg Ser Ile Gln					
	230		235		240
Arg Ser Leu Leu Cys Lys Asp					
	245				

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 108, 123, 126, 154, 198, 206, 217  
 <223> unknown base

<400> 304  
 aagctggttt aaggaagcag aggagggtta gattcgttga gtaggacgg 50  
 aagatcaacc catttccatt ccgccagatg gcctatgttt ctggtctctc 100  
 ccttcggnat catcagtggg gtnttntctg ttatcaatat tttggctgat 150  
 gcanttgggc caggtgtggg tgggatccat ggagactcac cctattantt 200  
 cctganttca gccttnttga cagcagccat tatcctgctc 240

<210> 305  
 <211> 378  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
 <223> unknown base

<400> 305  
 gaccgaccgt tcagatgccc ggttccagta cggcttctg atttttgggtg 50  
 ctgctgtntc tgtccttcta caggaggtgt tccgctttgc ctantacaag 100

ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
atcacccatt tccatccgcc agatggccta tgttnttggt ntttccttcg 200  
gtatcatcag tgggtgttttn tctgttatca atattttggn tgatgcantt 250  
gggccagggtg tggttgggat ccatggagan tcaccctatt aattcctgaa 300  
ttcagccttt ntgacagcag ccattatcct gntccatacc ttttggggag 350  
ttgtgttttt tgatgcctgt gagaggag 378

<210> 306

<211> 655

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 1, 22, 129, 133, 184

<223> unknown base

<400> 306

ngttggagaa gtggcgcgga cnttcatttg gggtttcggt ttccccctt 50  
tccctttccc cggggtctgg ggtgacattg cacggggcccc tcgtggggtc 100  
gcggtgccac ccacgcgga ctccccagnt gnggcgcct tccatttgc 150  
ctgtcctggt caggccccca ccccccttc cacntgacca gccatggggg 200  
ctgcggtggt tttcggtgc actttcgtcg cgttcggccc ggccttcgcg 250  
cttttcttga tcaactgtggc tggggaccgg cttcgcgtta tcatcctggt 300  
cgcaggggca tttttctggc tgggtctcct gtccttgcc tctgtggtct 350  
ggttcatctt ggtccatgtg accgaccggt cagatgccc gctccagtac 400  
ggcctcctga tttttggtgc tgctgtctct gtccttctac aggaggtgtt 450  
ccgctttgcc tactacaagc tgcttaagaa ggcagatgag gggtagcat 500  
cgctgagtga ggacggaaga tcacccatct ccatccgcca gatggcctat 550  
gtttctggtc tctccttcgg tatcatcagt ggtgtcttct ctgttatcaa 600  
tattttggct gatgcacttg ggccagggtg ggttgggatc catggagact 650  
cacc 655

<210> 307

<211> 650

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 52, 89, 128  
<223> unknown base

<400> 307  
gtaaaagaaa gtggccggac cttcattggg gtttcggttc cccctttcc 50  
cnttccccgg ggtctggggg tgacattgca ccgcgcccc cgtggggtcg 100  
cgttgccacc ccacgcggac tccccagntg gcgcgcccc cccatttgcc 150  
tgtcctggtc aggccccac ccccttccc acctgaccag ccatgggggc 200  
tgcggtgttt ttcgggctgc actttcgtcg cgttcggggc cggccttcgc 250  
gcttttcttg atcactgtgg ctggggaccc gcttcgcgtt atcatcctgg 300  
tcgcaggggc atttttctgg ctggtctccc tgctcctggc ctctgtggtc 350  
tggttcatct tgggccatgt gaccgaccgg tcagatgcc ggctccagta 400  
cggcctcctg atttttgggt ctgctgtctc tgccttcta caggagggtg 450  
tccgctttgc ctactacaag ctgcttaaga aggcagatga ggggttagca 500  
tcgctgagtg aggacggaag atcacccatc tccatccgcc agatggccta 550  
tgtttctggt ctctccttcg gtatcatcag tgggtgtctt tctgttatca 600  
atattttggc tgatgcactt gggccagggt tgggtgggat ccatggagac 650

<210> 308  
<211> 1570  
<212> DNA  
<213> Homo sapiens

<400> 308  
gccccaggga gcagtgggtg gttataactc aggcccgggt cccagagccc 50  
aggaggaggc agtggccagg aaggcacagg cctgagaagt ctgcggctga 100  
gctgggagca aatccccac cccctacctg ggggacagg caagtgagac 150  
ctggtgaggg tggctcagca ggcagggaag gagaggtgtc tgtgcgtcct 200  
gcaccacat ctttctctgt cccctccttg ccctgtctgg aggctgctag 250  
actcctatct tctgaattct atagtgcctg ggtctcagcg cagtgccgat 300  
ggtggcccgt ccttgtggtt cctctctacc tggggaaata aggtgcagcg 350  
gccatggcta cagcaagacc ccctggatg tgggtgctct gtgctctgat 400  
cacagccttg cttctggggg tcacagagca tggtctcgcc aacaatgatg 450  
tttctgtga ccaccctct aacaccgtgc cctctgggag caaccaggac 500  
ctgggagctg gggccgggga agacgcccgg tcggatgaca gcagcagccg 550



catcatcaat	ggatccgact	gcgatatgca	caccagccg	tggcaggccg	600
cgctgttgct	aaggcccaac	cagctctact	gcggggcggt	gttggtgcat	650
ccacagtggc	tgctcacggc	cgcccactgc	aggaagaaag	ttttcagagt	700
ccgtctcggc	cactactccc	tgtcaccagt	ttatgaatct	gggcagcaga	750
tgttccaggg	ggtcaaatcc	atccccacc	ctggctactc	ccaccctggc	800
cactctaacg	acctcatgct	catcaaactg	aacagaagaa	ttcgtcccac	850
taaagatgtc	agacccatca	acgtctcctc	tcattgtccc	tctgctggga	900
caaagtgctt	ggtgtctggc	tgggggacaa	ccaagagccc	ccaagtgcac	950
ttccctaagg	tcctccagt	cttgaatatc	agcgtgctaa	gtcagaaaag	1000
gtgcgaggat	gcttaccgca	gacagataga	tgacaccatg	ttctgcgccg	1050
gtgacaaaagc	aggtagagac	tcctgccagg	gtgattctgg	ggggcctgtg	1100
gtctgcaatg	gctccctgca	gggactcgtg	tcctggggag	attacccttg	1150
tgcccggccc	aacagaccgg	gtgtctacac	gaacctctgc	aagttcacca	1200
agtggatcca	ggaaaccatc	caggccaact	cctgagtcac	cccaggactc	1250
agcacaccgg	catccccacc	tgctgcaggg	acagccctga	cactcctttc	1300
agaccctcat	tccttcccag	agatgttgag	aatgttcac	tctccagccc	1350
ctgaccccat	gtctcctgga	ctcagggtct	gcttccccca	cattgggctg	1400
accgtgtctc	tctagttgaa	ccctgggaac	aatttccaaa	actgtccagg	1450
gcggggggtg	cgtctcaatc	tccttggggc	actttcatcc	tcaagctcag	1500
ggcccatccc	ttctctgcag	ctctgaccca	aatttagtcc	cagaaataaa	1550
ctgagaagtg	gaaaaaaaaa	1570			

<210> 309

<212> PRT

<400> 309

Ile Thr Ala Leu Leu Leu Gly Val Thr Glu His Val Leu Ala Asn  
20 25 30

Asn Asp Val Ser Cys Asp His Pro Ser Asn Thr Val Pro Ser Gly  
35 40 45

Ser Asn Gln Asp Leu Gly Ala Gly Ala Gly Glu Asp Ala Arg Ser

	50	55	60
Asp Asp Ser Ser Ser Arg Ile Ile Asn Gly Ser Asp Cys Asp Met	65	70	75
His Thr Gln Pro Trp Gln Ala Ala Leu Leu Leu Arg Pro Asn Gln	80	85	90
Leu Tyr Cys Gly Ala Val Leu Val His Pro Gln Trp Leu Leu Thr	95	100	105
Ala Ala His Cys Arg Lys Lys Val Phe Arg Val Arg Leu Gly His	110	115	120
Tyr Ser Leu Ser Pro Val Tyr Glu Ser Gly Gln Gln Met Phe Gln	125	130	135
Gly Val Lys Ser Ile Pro His Pro Gly Tyr Ser His Pro Gly His	140	145	150
Ser Asn Asp Leu Met Leu Ile Lys Leu Asn Arg Arg Ile Arg Pro	155	160	165
Thr Lys Asp Val Arg Pro Ile Asn Val Ser Ser His Cys Pro Ser	170	175	180
Ala Gly Thr Lys Cys Leu Val Ser Gly Trp Gly Thr Thr Lys Ser	185	190	195
Pro Gln Val His Phe Pro Lys Val Leu Gln Cys Leu Asn Ile Ser	200	205	210
Val Leu Ser Gln Lys Arg Cys Glu Asp Ala Tyr Pro Arg Gln Ile	215	220	225
Asp Asp Thr Met Phe Cys Ala Gly Asp Lys Ala Gly Arg Asp Ser	230	235	240
Cys Gln Gly Asp Ser Gly Gly Pro Val Val Cys Asn Gly Ser Leu	245	250	255
Gln Gly Leu Val Ser Trp Gly Asp Tyr Pro Cys Ala Arg Pro Asn	260	265	270
Arg Pro Gly Val Tyr Thr Asn Leu Cys Lys Phe Thr Lys Trp Ile	275	280	285
Gln Glu Thr Ile Gln Ala Asn Ser	290		

<210> 310

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 310  
tcctgtgacc acccctctaa cacc 24

<210> 311  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 311  
ctggaacatc tgcgcccag attc 24

<210> 312  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 312  
gtcggatgac agcagcagcc gcatcatcaa tggatccgac tgcgatatgc 50

<210> 313  
<211> 3010  
<212> DNA  
<213> Homo sapiens

<400> 313  
atggtcaacg accggtggaa gaccatgggc ggcgctgccc aacttgagga 50  
ccggccgcgc gacaagccgc agcggccgag ctgcggctac gtgctgtgca 100  
ccgtgctgct ggccctggct gtgctgctgg ctgtagctgt caccggtgcc 150  
gtgctcttcc tgaaccacgc ccacgcgccg ggcacggcgc cccacctgt 200  
cgtcagcaact ggggctgcca gcgccaacag cgccctggtc actgtggaaa 250  
gggcgagacag ctgcacctc agcatcctca ttgacccgcg ctgccccgac 300  
ctcaccgaca gcttcgacg cctggagagc gccaggcct cgggtgctgca 350  
ggcgctgaca gagcaccagg cccagccacg gctggtgggc gaccaggagc 400  
aggagctgct ggacacgctg gccgaccagc tgccccggt gctggccccga 450  
gcctcagagc tgcagacgga gtgcatgggg ctgcggaagg ggcattggcac 500  
gctggggccag ggccctcagc ccctgcagag tgagcagggc cgctcatcc 550  
agcttctctc tgagagccag ggccacatgg ctacactggt gaactccgtc 600  
agcgacatcc tggatgccct gcagagggac cgggggctgg gccggccccg 650  
caacaaggcc gaccttcaga gagcgccctgc ccggggaacc cggccccggg 700

gctgtgccac tggctcccgg ccccgagact gtctggacgt cctcctaagc 750  
 ggacagcagg acgatggcgt ctactctgtc tttcccaccc actaccggc 800  
 cggcttccag gtgtactgtg acatgcgcac ggacggcggc ggctggacgg 850  
 tgtttcagcg ccgggaggac ggctccgtga acttcttccg gggctgggac 900  
 gcgtaccgag acggcttttg caggctcacc ggggagcact ggctagggct 950  
 caagaggatc cacgccctga ccacacaggc tgcctacgag ctgcacgtgg 1000  
 acctggagga ctttgagaat ggcacggcct atgcccgcta cgggagcttc 1050  
 ggcgtgggct tgttctccgt ggaccctgag gaagacgggt acccgctcac 1100  
 cgtggctgac tattccggca ctgcaggcga ctccctcctg aagcacagcg 1150  
 gcatgagggt caccaccaag gaccgtgaca gcgaccattc agagaacaac 1200  
 tgtgccgcct tctaccgcg tgcctgggtg taccgcaact gccacacgtc 1250  
 caacctcaat gggcagtacc tgcgcggtgc gcacgcctcc tatgccgacg 1300  
 gcgtggagtg gtccctcctgg accggctggc agtactcact caagttctct 1350  
 gagatgaaga tccggccggt ccgggaggac cgctagactg gtgcaccttg 1400  
 tccttggccc tgctgggtccc tgtcgcccca tccccgacct cacctcactc 1450  
 tttcgtgaat gttctccacc cacctgtgcc tggcggacct actctccagt 1500  
 agggaggggc cgggccatcc ctgacacgaa gctccctggg ccggtgaagt 1550  
 cacacatgcg cttctcgccg tccccacccc ctccatttgg cagctcactg 1600  
 atctcttgcc tctgtgatg ggggctggca aacttgacga ccccaactcc 1650  
 tgcctgcccc cactgtgact ccggtgctgt ttgccgtccc ctggccagga 1700  
 tgggtggagt tgccccaggc accctctgcc ctgcccggcc aaataaccgg 1750  
 cattatgggg acagagagca gggggcagac agcaccctg gagtcctcct 1800  
 agcagatcgt ggggaatgtc aggtctctct gaggtcaggt ctgaggccag 1850  
 tatcctccag ccttcccaat gccaaacccc acccgtttc cctggtgccc 1900  
 agagaacca cctctcccc aagggcctca gcctggctgt gggctgggtg 1950  
 gccccatcct accaggccct gaggtcagga tggggagctg ctgccttttg 2000  
 ggaccacgcg tccaaggctg agaccagttc cctggaggcc acccaccctg 2050  
 tgccccggca ggcctgggggt ctgcagtcct cttacctgct gtgcccacct 2100  
 gctctctgtc tcaaagtagg cccaacccat cccccacca gctcccggcc 2150

gtcctcctac ctggggcagc cggggctgcc atcccatctt tctgcctct 2200  
 ggaaggtggg tggggccctg caccgtgggg ctggactgcg ctaatgggaa 2250  
 gctcttggtt ttctgggctg gggcctaggc agggctggga tgaggcttgt 2300  
 acaacccccca ccaccaatctt cccagggact ccagggtcct gaggcctccc 2350  
 aggagggcct tgggggtgat gaccccttcc ctgaggtggc tgtctccatg 2400  
 aggaggccaa cccttgccat tgaccgtggc cacctggacc caggccaggc 2450  
 ccggcccggc gagtgggtcaa gggacagggg ccacctcacc gggcaaattg 2500  
 ggtcgggggg actggggcac cagaccaggc accacctgga cactttcttg 2550  
 ttgaatcctc ccaacaccca gcacgctgtc atccccactc cttgtgtgca 2600  
 cacatgcaga ggtgagaccc gcaggctccc aggaccagca gccacaaggg 2650  
 cagggctgga gccgggtcct cagctgtctg ctcagcagcc ctggaccgc 2700  
 gtgcgttacg tcaggcccag atgcagggcg gcttttccaa ggcctcctga 2750  
 tgggggcctc cgaaagggtt ggagtcagcc ttggggagct gcctagcagc 2800  
 ctctcctcgg gcaggagggg aggtggcttc ctccaaagga caccgatgg 2850  
 caggtgccta gggggtgtgg ggttccgttc tcccttcccc tcccactgaa 2900  
 gtttgtgctt aaaaaacaat aaatttgact tggcaccact gggggttggg 2950  
 gggagaggcc gtgtgacctg gctctctgtc ccagtgccac caggtcatcc 3000  
 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
 Met Val Asn Asp Arg Trp Lys Thr Met Gly Gly Ala Ala Gln Leu  
 1 5 10 15  
 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
 20 25 30  
 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
 35 40 45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
 50 55 60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
 65 70 75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu

					80						85						90
Ser	Ile	Leu	Ile	Asp 95	Pro	Arg	Cys	Pro	Asp 100	Leu	Thr	Asp	Ser	Phe 105			
Ala	Arg	Leu	Glu	Ser 110	Ala	Gln	Ala	Ser	Val 115	Leu	Gln	Ala	Leu	Thr 120			
Glu	His	Gln	Ala	Gln 125	Pro	Arg	Leu	Val	Gly 130	Asp	Gln	Glu	Gln	Glu 135			
Leu	Leu	Asp	Thr	Leu 140	Ala	Asp	Gln	Leu	Pro 145	Arg	Leu	Leu	Ala	Arg 150			
Ala	Ser	Glu	Leu	Gln 155	Thr	Glu	Cys	Met	Gly 160	Leu	Arg	Lys	Gly	His 165			
Gly	Thr	Leu	Gly	Gln 170	Gly	Leu	Ser	Ala	Leu 175	Gln	Ser	Glu	Gln	Gly 180			
Arg	Leu	Ile	Gln	Leu 185	Leu	Ser	Glu	Ser	Gln 190	Gly	His	Met	Ala	His 195			
Leu	Val	Asn	Ser	Val 200	Ser	Asp	Ile	Leu	Asp 205	Ala	Leu	Gln	Arg	Asp 210			
Arg	Gly	Leu	Gly	Arg 215	Pro	Arg	Asn	Lys	Ala 220	Asp	Leu	Gln	Arg	Ala 225			
Pro	Ala	Arg	Gly	Thr 230	Arg	Pro	Arg	Gly	Cys 235	Ala	Thr	Gly	Ser	Arg 240			
Pro	Arg	Asp	Cys	Leu 245	Asp	Val	Leu	Leu	Ser 250	Gly	Gln	Gln	Asp	Asp 255			
Gly	Val	Tyr	Ser	Val 260	Phe	Pro	Thr	His	Tyr 265	Pro	Ala	Gly	Phe	Gln 270			
Val	Tyr	Cys	Asp	Met 275	Arg	Thr	Asp	Gly	Gly 280	Gly	Trp	Thr	Val	Phe 285			
Gln	Arg	Arg	Glu	Asp 290	Gly	Ser	Val	Asn	Phe 295	Phe	Arg	Gly	Trp	Asp 300			
Ala	Tyr	Arg	Asp	Gly 305	Phe	Gly	Arg	Leu	Thr 310	Gly	Glu	His	Trp	Leu 315			
Gly	Leu	Lys	Arg	Ile 320	His	Ala	Leu	Thr	Thr 325	Gln	Ala	Ala	Tyr	Glu 330			
Leu	His	Val	Asp	Leu 335	Glu	Asp	Phe	Glu	Asn 340	Gly	Thr	Ala	Tyr	Ala 345			
Arg	Tyr	Gly	Ser	Phe 350	Gly	Val	Gly	Leu	Phe 355	Ser	Val	Asp	Pro	Glu 360			
Glu	Asp	Gly	Tyr	Pro 365	Leu	Thr	Val	Ala	Asp 370	Tyr	Ser	Gly	Thr	Ala 375			



cttttagtgc cttgcttcct gaactagctc acagtagccc ggcggcccag 100  
ggcaatccga ccacatttca ctctcaccgc thtaggaatc cagatgcagg 150  
ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
atgagcctgc attctcaagc ctctgccaca actcggcatc cagagccccg 250  
gcgcacagag cacagggctc cctcttcaac gtggcgacca gtggccctga 300  
ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
cttttgtttt ttcagtacta ccagctctcc aatactggtc aagacaccat 400  
ttctcaaatg gaagaaagat taggaaatac gtcccaagag ttgcaatctc 450  
ttcaagtcca gaatataaaag cttgcaggaa gtctgcagca tgtggctgaa 500  
aaactctgtc gtgagctgta taacaaagct ggagcacaca ggtgcagccc 550  
ttgtacagaa caatggaaat ggcatggaga caattgctac cagttctata 600  
aagacagcaa aagttgggag gactgtaaat atttctgcct tagtgaaaac 650  
tctaccatgc tgaagataaa caaacaagaa gacctggaat ttgccgcgtc 700  
tcagagctac tctgagtttt tctactctta ttggacaggg cttttgcgcc 750  
ctgacagtgg caaggcctgg ctgtggatgg atggaacccc tttcacttct 800  
gaactgttcc atattataat agatgtcacc agcccaagaa gcagagactg 850  
tgtggccatc ctcaatggga tgatcttctc aaaggactgc aaagaattga 900  
agcgttgtgt ctgtgagaga agggcaggaa tgggtgaagcc agagagcctc 950  
catgtcccc ctgaaacatt aggcgaaggt gactgattcg ccctctgcaa 1000  
ctacaaatag cagagtgagc caggcgggtgc caaagcaagg gctagttag 1050  
acattgggaa atggaacata atcaggaaag actatctctc tgactagtac 1100  
aaaatggggt ctctgttttc ctgttcagga tcaccagcat ttctgagctt 1150  
gggtttatgc acgtatttaa cagtcacaag aagtcttatt tacatgccac 1200  
caaccaacct cagaaaccca taatgtcatc tgccttcttg gcttagagat 1250  
aacttttagc tctctttctt ctcaatgtct aatatcacct ccctgttttc 1300  
atgtcttcct tacacttggg ggaataagaa actttttgaa gtagaggaaa 1350  
tacattgagg taacatcctt ttctctgaca gtcaagtagt ccatcagaaa 1400  
ttggcagtca cttcccagat tgtaccagca aatacacaag gaattctttt 1450  
tgtttgtttc agttcatact agtcccttcc caatccatca gtaaagaccc 1500



catctgcctt gtccatgccg tttcccaaca gggatgtcac ttgatatgag 1550  
aatctcaaat ctcaatgcct tataagcatt ccttcctgtg tccattaaga 1600  
ctctgataat tgtctcccct ccataggaat ttctcccagg aaagaaatat 1650  
atccccatct ccgtttcata tcagaactac cgtccccgat attcccttca 1700  
gagagattaa agaccagaaa aaagtgagcc tcttcatctg cacctgtaat 1750  
agtttcagtt cctattttct tccattgacc catatttata cctttcaggt 1800  
actgaagatt taataataat aaatgtaaact actgtgaaaa a 1841

<210> 319

<211> 280

<212> PRT

<213> Homo sapiens

<400> 319

Met	Gln	Ala	Lys	Tyr	Ser	Ser	Thr	Arg	Asp	Met	Leu	Asp	Asp	Asp	1	5	10	15
Gly	Asp	Thr	Thr	Met	Ser	Leu	His	Ser	Gln	Ala	Ser	Ala	Thr	Thr	20	25	30	
Arg	His	Pro	Glu	Pro	Arg	Arg	Thr	Glu	His	Arg	Ala	Pro	Ser	Ser	35	40	45	
Thr	Trp	Arg	Pro	Val	Ala	Leu	Thr	Leu	Leu	Thr	Leu	Cys	Leu	Val	50	55	60	
Leu	Leu	Ile	Gly	Leu	Ala	Ala	Leu	Gly	Leu	Leu	Phe	Phe	Gln	Tyr	65	70	75	
Tyr	Gln	Leu	Ser	Asn	Thr	Gly	Gln	Asp	Thr	Ile	Ser	Gln	Met	Glu	80	85	90	
Glu	Arg	Leu	Gly	Asn	Thr	Ser	Gln	Glu	Leu	Gln	Ser	Leu	Gln	Val	95	100	105	
Gln	Asn	Ile	Lys	Leu	Ala	Gly	Ser	Leu	Gln	His	Val	Ala	Glu	Lys	110	115	120	
Leu	Cys	Arg	Glu	Leu	Tyr	Asn	Lys	Ala	Gly	Ala	His	Arg	Cys	Ser	125	130	135	
Pro	Cys	Thr	Glu	Gln	Trp	Lys	Trp	His	Gly	Asp	Asn	Cys	Tyr	Gln	140	145	150	
Phe	Tyr	Lys	Asp	Ser	Lys	Ser	Trp	Glu	Asp	Cys	Lys	Tyr	Phe	Cys	155	160	165	
Leu	Ser	Glu	Asn	Ser	Thr	Met	Leu	Lys	Ile	Asn	Lys	Gln	Glu	Asp	170	175	180	
Leu	Glu	Phe	Ala	Ala	Ser	Gln	Ser	Tyr	Ser	Glu	Phe	Phe	Tyr	Ser	185	190	195	

Tyr Trp Thr Gly Leu Leu Arg Pro Asp Ser Gly Lys Ala Trp Leu  
 200 205 210  
 Trp Met Asp Gly Thr Pro Phe Thr Ser Glu Leu Phe His Ile Ile  
 215 220 225  
 Ile Asp Val Thr Ser Pro Arg Ser Arg Asp Cys Val Ala Ile Leu  
 230 235 240  
 Asn Gly Met Ile Phe Ser Lys Asp Cys Lys Glu Leu Lys Arg Cys  
 245 250 255  
 Val Cys Glu Arg Arg Ala Gly Met Val Lys Pro Glu Ser Leu His  
 260 265 270  
 Val Pro Pro Glu Thr Leu Gly Glu Gly Asp  
 275 280

<210> 320  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 59, 95, 149, 331, 364, 438, 446  
 <223> unknown base

<400> 320  
 aattttcacc gctgtaggaa tccagatgca ggccaagtac agcagcacga 50  
 gggacatgnt ggatgatgat gggacaccac catgagcctg cattntcaag 100  
 cttttgccac aattcggcat ccagagcccc ggcgcacaga gcacagggnt 150  
 cctttttcaa cgtggcgacc agtggccctg accctgctga ctttgtgctt 200  
 ggtgctgctg atagggctgg cagccctggg gcttttgttt tttcagtact 250  
 accagctctc caatactggt caagacacca tttctcaaat ggaagaaaga 300  
 ttaggaaata cgtcccaaga gttgcaattt nttcaagtcc agaataataa 350  
 gcttgcagga agtntgcagc atgtggctga aaaactctgt cgtgagctgt 400  
 ataacaaagc tggaggaact ttgaaggagg gcaaagtntc ctcatntact 450  
 atacacacac cacttccc 468

<210> 321  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 321

00000000000000000000000000000000

<213> Artificial Sequence

<223> Synthetic oligonucleotide probe

catgctgacg acttcctgca agc 23

<213> Artificial Sequence

<223> Synthetic oligonucleotide probe

ccacacagtc tctgcttctt ggg 23

<213> Artificial Sequence

<223> Synthetic oligonucleotide probe

atgctggatg atgatgggga caccaccatg agcctgcatt 40

<213> Homo sapiens

gccgagcgca agaaccctgc gcagcccaga gcagctgctg gagggggaatc 50

gagggcgcggc tccgggggatt cggctcgggc cgctggctct gctctgcggg 100

gagggagcgg gcccgccgc ggggcccag ccctccgat ccgccccctc 150

cccqgtcccq cccctcggga gactcctctg gctgctctgg gggttcgccg 200

gggccgggga cccgcggtcc gggcgccatg cgggcacgc tgctgctgtc 250

ggtgctgcgg cccgcagggc ccgtggccgt gggcatctcc ctgggcttca 300

ccctgaqcct gctcagcgtc acctgggtgg aggagccgtg cggcccaggc 350

ccgccccaac ctggagactc tgagctgccg ccgcgcgggca acaccaacgc 400

ggcgcgcccg cccaactcgg tgcagcccgg agcggagcgc gagaagcccc 450

gggccggcga aggcgcccgg gagaattggg agccgcgcgt cttgccctac 500  
 caccctgcac agcccggcca ggccgcaaaa aaggccgtca ggacccgcta 550  
 catcagcacg gagctgggca tcaggcagag gctgctggtg gcggtgctga 600  
 cctctcagac cacgctgccc acgctgggcg tggccgtgaa ccgcacgctg 650  
 gggcaccggc tggagcgtgt ggtgttcctg acgggcgcac ggggcccgcg 700  
 ggccccacct ggcatggcag tggtgacgct gggcgaggag cgacccattg 750  
 gacacctgca cctggcgctg cgccacctgc tggagcagca cggcgacgac 800  
 tttgactggt tcttcctggt gcctgacacc acctacaccg aggcgcacgg 850  
 cctggcacgc ctaactggcc acctcagcct ggcctccgcc gccacactgt 900  
 acctggggcg gccccaggac ttcacggcg gagagccac ccccgccgc 950  
 tactgccacg gaggcttttg ggtgctgctg tcgcgcacgc tgctgcaaca 1000  
 actgcgcccc cacctggaag gctgccgcaa cgacatcgtc agtgcgcgcc 1050  
 ctgacgagtg gctgggtcgc tgcattctcg atgccaccgg ggtgggctgc 1100  
 actggtgacc acgagggggg gcactatagc catctggagc tgagccctgg 1150  
 ggagccagtg caggaggggg accctcattt ccgaagtgcc ctgacagccc 1200  
 accctgtgcg tgaccctgtg cacatgtacc agctgcacaa agctttcgcc 1250  
 cgagctgaac tggaacgcac gtaccaggag atccaggagt tacagtggga 1300  
 gatccagaat accagccatc tggccgttga tggggaccgg gcagctgctt 1350  
 ggcccgctggg tattccagca ccatcccgcc cggcctcccg ctttgagggtg 1400  
 ctgcgctggg actacttcac ggagcagcac gctttctcct gcgccgatgg 1450  
 ctcaccccg tgcccactgc gtggggctga ccgggctgat gtggccgatg 1500  
 ttctggggac agctctagag gagctgaacc gccgctacca cccggccttg 1550  
 cggctccaga agcagcagct ggtgaatggc taccgacgct ttgatccggc 1600  
 ccgggggtatg gaatacacgc tggacttgca gctggaggca ctgaccccc 1650  
 agggaggccg ccggcccctc actcgccgag tgcagctgct ccggccgctg 1700  
 agccgcgtgg agatcttgcc tgtgccctat gtcactgagg cctcacgtct 1750  
 cactgtgctg ctgcctctag ctgcggctga gcgtgacctg gccctgggt 1800  
 tcttgagggc ctttgccact gcagcactgg agcctggtga tgctgcggca 1850  
 gccctgacct tgctgctact gtatgagccg cgccaggccc agcgcgtggc 1900

ccatgcagat gtcttcgcac ctgtcaaggc ccacgtggca gagctggagc 1950  
 ggcgtttccc cgggtgcccgg gtgccatggc tcagtgtgca gacagccgca 2000  
 ccctcaccac tgcgcctcat ggatctactc tccaagaagc acccgctgga 2050  
 cacactgttc ctgctggccg ggccagacac ggtgctcacg cctgacttcc 2100  
 tgaaccgctg ccgcatgcat gccatctccg gctggcaggc cttctttccc 2150  
 atgcatttcc aagccttcca cccagggtgtg gccccaccac aagggcctgg 2200  
 gccccagag ctgggcccgtg aactggccg ctttgatcgc caggcagcca 2250  
 gcgaggcctg cttctacaac tccgactacg tggcagcccg tgggcgctg 2300  
 gcggcagcct cagaacaaga agaggagctg ctggagagcc tggatgtgta 2350  
 cgagctgttc ctccacttct ccagtctgca tgtgctgcgg gcggtggagc 2400  
 cggcgctgct gcagcgctac cgggcccaga cgtgcagcgc gaggctcagt 2450  
 gaggacctgt accaccgctg cctccagagc gtgcttgagg gcctcggctc 2500  
 ccgaacccag ctggccatgc tactctttga acaggagcag ggcaacagca 2550  
 cctgacccca ccctgtcccc gtgggcccgtg gcatggccac accccacccc 2600  
 acttctcccc caaaaccaga gccacctgcc agcctcgctg ggcagggctg 2650  
 gccgtagcca gaccccaagc tggcccactg gtccctctc tggctctgtg 2700  
 ggtccctggg ctctggacaa gcaactgggg acgtgcccc agagccaccc 2750  
 acttctcatc ccaaaccag tttccctgcc ccctgacgct gctgattcgg 2800  
 gctgtggcct ccacgtattt atgcagtaca gtctgcctga cgccagccct 2850  
 gcctctgggc cctgggggct gggctgtaga agagtgttg gggaaggagg 2900  
 gagctgagga gggggcatct cccaacttct cccttttga ccctgccgaa 2950  
 gctccctgcc tttaataaac tggccaagtg tggaaaaa 2988

<210> 326

<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

Met	Arg	Ala	Ser	Leu	Leu	Leu	Ser	Val	Leu	Arg	Pro	Ala	Gly	Pro
1				5					10					15
Val	Ala	Val	Gly	Ile	Ser	Leu	Gly	Phe	Thr	Leu	Ser	Leu	Leu	Ser
				20					25					30
Val	Thr	Trp	Val	Glu	Glu	Pro	Cys	Gly	Pro	Gly	Pro	Pro	Gln	Pro
				35					40					45

**000000000000**

				335					340					345
Glu	Arg	Thr	Tyr	Gln 350	Glu	Ile	Gln	Glu	Leu 355	Gln	Trp	Glu	Ile	Gln 360
Asn	Thr	Ser	His	Leu 365	Ala	Val	Asp	Gly	Asp 370	Arg	Ala	Ala	Ala	Trp 375
Pro	Val	Gly	Ile	Pro 380	Ala	Pro	Ser	Arg	Pro 385	Ala	Ser	Arg	Phe	Glu 390
Val	Leu	Arg	Trp	Asp 395	Tyr	Phe	Thr	Glu	Gln 400	His	Ala	Phe	Ser	Cys 405
Ala	Asp	Gly	Ser	Pro 410	Arg	Cys	Pro	Leu	Arg 415	Gly	Ala	Asp	Arg	Ala 420
Asp	Val	Ala	Asp	Val 425	Leu	Gly	Thr	Ala	Leu 430	Glu	Glu	Leu	Asn	Arg 435
Arg	Tyr	His	Pro	Ala 440	Leu	Arg	Leu	Gln	Lys 445	Gln	Gln	Leu	Val	Asn 450
Gly	Tyr	Arg	Arg	Phe 455	Asp	Pro	Ala	Arg	Gly 460	Met	Glu	Tyr	Thr	Leu 465
Asp	Leu	Gln	Leu	Glu 470	Ala	Leu	Thr	Pro	Gln 475	Gly	Gly	Arg	Arg	Pro 480
Leu	Thr	Arg	Arg	Val 485	Gln	Leu	Leu	Arg	Pro 490	Leu	Ser	Arg	Val	Glu 495
Ile	Leu	Pro	Val	Pro 500	Tyr	Val	Thr	Glu	Ala 505	Ser	Arg	Leu	Thr	Val 510
Leu	Leu	Pro	Leu	Ala 515	Ala	Ala	Glu	Arg	Asp 520	Leu	Ala	Pro	Gly	Phe 525
Leu	Glu	Ala	Phe	Ala 530	Thr	Ala	Ala	Leu	Glu 535	Pro	Gly	Asp	Ala	Ala 540
Ala	Ala	Leu	Thr	Leu 545	Leu	Leu	Leu	Tyr	Glu 550	Pro	Arg	Gln	Ala	Gln 555
Arg	Val	Ala	His	Ala 560	Asp	Val	Phe	Ala	Pro 565	Val	Lys	Ala	His	Val 570
Ala	Glu	Leu	Glu	Arg 575	Arg	Phe	Pro	Gly	Ala 580	Arg	Val	Pro	Trp	Leu 585
Ser	Val	Gln	Thr	Ala 590	Ala	Pro	Ser	Pro	Leu 595	Arg	Leu	Met	Asp	Leu 600
Leu	Ser	Lys	Lys	His 605	Pro	Leu	Asp	Thr	Leu 610	Phe	Leu	Leu	Ala	Gly 615
Pro	Asp	Thr	Val	Leu 620	Thr	Pro	Asp	Phe	Leu 625	Asn	Arg	Cys	Arg	Met 630

His	Ala	Ile	Ser	Gly	Trp	Gln	Ala	Phe	Phe	Pro	Met	His	Phe	Gln
				635					640					645
Ala	Phe	His	Pro	Gly	Val	Ala	Pro	Pro	Gln	Gly	Pro	Gly	Pro	Pro
				650					655					660
Glu	Leu	Gly	Arg	Asp	Thr	Gly	Arg	Phe	Asp	Arg	Gln	Ala	Ala	Ser
				665					670					675
Glu	Ala	Cys	Phe	Tyr	Asn	Ser	Asp	Tyr	Val	Ala	Ala	Arg	Gly	Arg
				680					685					690
Leu	Ala	Ala	Ala	Ser	Glu	Gln	Glu	Glu	Glu	Leu	Leu	Glu	Ser	Leu
				695					700					705
Asp	Val	Tyr	Glu	Leu	Phe	Leu	His	Phe	Ser	Ser	Leu	His	Val	Leu
				710					715					720
Arg	Ala	Val	Glu	Pro	Ala	Leu	Leu	Gln	Arg	Tyr	Arg	Ala	Gln	Thr
				725					730					735
Cys	Ser	Ala	Arg	Leu	Ser	Glu	Asp	Leu	Tyr	His	Arg	Cys	Leu	Gln
				740					745					750
Ser	Val	Leu	Glu	Gly	Leu	Gly	Ser	Arg	Thr	Gln	Leu	Ala	Met	Leu
				755					760					765
Leu	Phe	Glu	Gln	Glu	Gln	Gly	Asn	Ser	Thr					
				770					775					

<210> 327  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 327  
 tggaaggctg ccgcaacgac aatc 24  
  
 <210> 328  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 328  
 ctgatgtggc cgatgttctg 20  
  
 <210> 329  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>



<223> Synthetic oligonucleotide probe

<400> 329  
atggctcagt gtgcagacag 20

<210> 330  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 330  
gcatgctgct ccgtgaagta gtcc 24

<210> 331  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 331  
atgcatggga aagaaggcct gccc 24

<210> 332  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 332  
tgcactggtg accacgaggg ggtgcactat agccatctgg agctgag 47

<210> 333  
<211> 1095  
<212> DNA  
<213> Homo sapiens

<400> 333  
gctctggccg gccccggcga ttggtcaccg cccgctaggg gacagccctg 50  
gcctcctctg attggcaagc gctggccacc tccccacacc ccttgccaac 100  
gctcccctag tggagaaaag gagtagctat tagccaattc ggcagggccc 150  
gctttttaga agcttgattt cctttgaaga tgaaagacta gcggaagctc 200  
tgctcttttc ccagtgggc gagggaaactc ggggcgattg gctgggaact 250  
gtatccaccc aaatgtcacc gattttcttc tatgcaggaa atgagcagac 300  
ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350

gccacgacaa	ctggaggcaa	agaggggtgc	tcaacgcccc	gcctcattgg	400
aaaaccaa	cagatctggg	acctatatag	cgtggcgagg	gcggggcgat	450
gattgtcgcg	ctcgcaccca	ctgcagctgc	gcacagtcgc	atttctttcc	500
ccgcccccta	gaccctgcag	caccatctgt	catggcggct	gggctgtttg	550
gtttgagcgc	tcgccgtctt	ttggcggcag	cggcgacgcg	agggtctccg	600
gcgcgccgcg	tccgctggga	atctagcttc	tccaggactg	tggtcgcccc	650
gtccgctgtg	gcgggaaagc	ggcccccaga	accgaccaca	ccgtggcaag	700
aggaccacga	acccgaggac	gaaaacttgt	atgagaagaa	cccagactcc	750
catggttatg	acaaggaccc	cgttttggac	gtctggaaca	tgcgacttgt	800
cttcttcttt	ggcgtctcca	tcatactggt	ccttggcagc	acctttgtgg	850
cctatctgcc	tgactacagg	atgaaagagt	ggtcccgcgc	cgaagctgag	900
aggcttgtga	aataccgaga	ggccaatggc	cttcccatca	tggaatccaa	950
ctgcttcgac	cccagcaaga	tccagctgcc	agaggatgag	tgaccagttg	1000
ctaagtgggg	ctcaagaagc	accgccttcc	ccacccctcg	cctgccattc	1050
tgacctcttc	tcagagcacc	taattaaagg	ggctgaaagt	ctgaa	1095

<210> 334

<212> PRT

<400> 334

Met Ala Ala Gly Leu Phe Gly Leu Ser Ala Arg Arg Leu Leu Ala  
1 5 10 15

Ala Ala Ala Thr Arg Gly Leu Pro Ala Ala Arg Val Arg Trp Glu  
20 25 30

Ser Ser Phe Ser Arg Thr Val Val Ala Pro Ser Ala Val Ala Gly  
35 40 45

Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu  
50 55 60

Pro Glu Asp Glu Asn Leu Tyr Glu Lys Asn Pro Asp Ser His Gly  
65 70 75

Tyr Asp Lys Asp Pro Val Leu Asp Val Trp Asn Met Arg Leu Val  
80 85 90

Phe Phe Phe Gly Val Ser Ile Ile Leu Val Leu Gly Ser Thr Phe  
95 100 105

Val Ala Tyr Leu Pro Asp Tyr Arg Met Lys Glu Trp Ser Arg Arg

	110		115		120									
Glu	Ala	Glu	Arg	Leu	Val	Lys	Tyr	Arg	Glu	Ala	Asn	Gly	Leu	Pro
				125					130					135
Ile	Met	Glu	Ser	Asn	Cys	Phe	Asp	Pro	Ser	Lys	Ile	Gln	Leu	Pro
				140					145					150

Glu Asp Glu

<210> 335  
 <211> 442  
 <212> DNA  
 <213> Homo sapiens

<400> 335  
 ggcggctggg ctgtttgggt tgagcgctcg ccgtcttttg gcggcagcgg 50  
 cgacgcgagg gctcccgcc gcccgctcc gctgggaatc tagcttctcc 100  
 aggactgtgg tcgccccgtc cgctgtggcg ggaaagcggc cccagaacc 150  
 gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgatg 200  
 agaagaaccc agactcccat gggtatgaca aggaccccg tttggacgct 250  
 tggaacatgc gacttgctct cttctttggc gtctccatca tcctggctct 300  
 tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtgg 350  
 cccgccgca agctgagagg cttgtgaaat accgagaggc caatggcctt 400  
 cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442

<210> 336  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 336  
 ctgagaccct gcagcaccat ctg 23

<210> 337  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 337  
 ggtgcttctt gagccccact tagc 24

<210> 338

<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 338  
aatctagctt ctccaggact gtggtcgccc cgtccgctgt 40

<210> 339  
<211> 2162  
<212> DNA  
<213> Homo sapiens

<400> 339  
gcggcggcta tgccgcttgc tctgctcgtc ctgttgctcc tggggcccgg 50  
cggctggtgc cttgcagaac cccacgcga cagcctgcgg gaggaacttg 100  
tcatcacccc gctgccttcc ggggacgtag ccgccacatt ccagttccgc 150  
acgcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200  
ctttccaaa gccctggggc agctgatctc caagtattct ctacgggagc 250  
tgcacctgtc attcacacaa ggcttttgga ggacccgata ctggggggcca 300  
cccttcctgc aggcccatc aggtgcagag ctgtgggtct ggttccaaga 350  
cactgtcact gatgtggata aatcttgga ggagctcagt aatgtcctct 400  
cagggatctt ctgcgcctct ctcaacttca tcgactccac caacacagtc 450  
actcccaactg cctccttcaa acccctgggt ctggccaatg aactgacca 500  
ctactttctg cgctatgctg tgctgccgcg ggaggtggtc tgcaccgaaa 550  
acctcacccc ctggaagaag ctcttgccct gtagttccaa ggcaggcctc 600  
tctgtgtgc tgaaggcaga tcgcttgttc cacaccagct accactccca 650  
ggcagtgcac atccgccttg tttgcagaaa tgcacgctgt actagcatct 700  
cctgggagct gaggcagacc ctgtcagttg tatttgatgc cttcatcacg 750  
gggcagggaa agaaagactg gtccctcttc cggatgttct cccgaaccct 800  
cacggagccc tgccccctgg cttcagagag ccgagtctat gtggacatca 850  
ccacctaaa ccaggacaac gagacattag aggtgcaccc acccccgacc 900  
actacatctc aggacgtcat cctaggcact cggaagacct atgccatcta 950  
tgacttgctt gacaccgcca tgatcaacaa ctctcgaaac ctcaacatcc 1000  
agctcaagtg gaagagaccc ccagagaatg aggccccccc agtgcccttc 1050

ctgcatgccc agcgggtacgt gagtggctat gggctgcaga agggggagct 1100  
gagcacactg ctgtacaaca cccacccata ccgggccttc ccggtgctgc 1150  
tgctggacac cgtaccctgg tatctgcggc tgtatgtgca caccctcacc 1200  
atcacctcca agggcaagga gaacaaacca agttacatcc actaccagcc 1250  
tgcccaggac cggctgcaac cccacctcct ggagatgctg attcagctgc 1300  
cggccaactc agtcaccaag gtttccatcc agtttgagcg ggcgctgctg 1350  
aagtggaccg agtacacgcc agatcctaac catggcttct atgtcagccc 1400  
atctgtcctc agcgccttg tgcccagcat ggtagcagcc aagccagtgg 1450  
actgggaaga gagtccctc ttcaacagcc tgttcccagt ctctgatggc 1500  
tctaactact ttgtgcggct ctacacggag ccgctgctgg tgaacctgcc 1550  
gacaccggac ttcagcatgc cctacaacgt gatctgcctc acgtgactg 1600  
tggtggccgt gtgctacggc tccttctaca atctcctcac ccgaaccttc 1650  
cacatcgagg agccccgcac aggtggcctg gccaagcggc tggccaacct 1700  
tatccggcgc gcccgagggtg tccccccact ctgattcttg ccctttccag 1750  
cagctgcagc tgccgtttct ctctggggag gggagcccaa gggctgtttc 1800  
tgccacttgc tctcctcaga gttggctttt gaaccaaagt gccctggacc 1850  
aggtcagggc ctacagctgt gttgtccagt acaggagcca cgagccaaat 1900  
gtggcatttg aatttgaatt aacttagaaa ttcatttcct cacctgtagt 1950  
ggccacctct atattgaggt gctcaataag caaaagtggc cggtggctgc 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggtcggct 2050  
ggcagcactg gccaaggtga tgggggtgtgc tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaaaa aa 2162

<210> 340

<211> 574

<212> PRT

<213> Homo sapiens

<400> 340

Met	Pro	Leu	Ala	Leu	Leu	Val	Leu	Leu	Leu	Gly	Pro	Gly	Gly
1				5				10				15	
Trp	Cys	Leu	Ala	Glu	Pro	Pro	Arg	Asp	Ser	Leu	Arg	Glu	Glu
				20					25			30	

Val	Ile	Thr	Pro	Leu	Pro	Ser	Gly	Asp	Val	Ala	Ala	Thr	Phe	Gln	35	40	45
Phe	Arg	Thr	Arg	Trp	Asp	Ser	Glu	Leu	Gln	Arg	Glu	Gly	Val	Ser	50	55	60
His	Tyr	Arg	Leu	Phe	Pro	Lys	Ala	Leu	Gly	Gln	Leu	Ile	Ser	Lys	65	70	75
Tyr	Ser	Leu	Arg	Glu	Leu	His	Leu	Ser	Phe	Thr	Gln	Gly	Phe	Trp	80	85	90
Arg	Thr	Arg	Tyr	Trp	Gly	Pro	Pro	Phe	Leu	Gln	Ala	Pro	Ser	Gly	95	100	105
Ala	Glu	Leu	Trp	Val	Trp	Phe	Gln	Asp	Thr	Val	Thr	Asp	Val	Asp	110	115	120
Lys	Ser	Trp	Lys	Glu	Leu	Ser	Asn	Val	Leu	Ser	Gly	Ile	Phe	Cys	125	130	135
Ala	Ser	Leu	Asn	Phe	Ile	Asp	Ser	Thr	Asn	Thr	Val	Thr	Pro	Thr	140	145	150
Ala	Ser	Phe	Lys	Pro	Leu	Gly	Leu	Ala	Asn	Asp	Thr	Asp	His	Tyr	155	160	165
Phe	Leu	Arg	Tyr	Ala	Val	Leu	Pro	Arg	Glu	Val	Val	Cys	Thr	Glu	170	175	180
Asn	Leu	Thr	Pro	Trp	Lys	Lys	Leu	Leu	Pro	Cys	Ser	Ser	Lys	Ala	185	190	195
Gly	Leu	Ser	Val	Leu	Leu	Lys	Ala	Asp	Arg	Leu	Phe	His	Thr	Ser	200	205	210
Tyr	His	Ser	Gln	Ala	Val	His	Ile	Arg	Pro	Val	Cys	Arg	Asn	Ala	215	220	225
Arg	Cys	Thr	Ser	Ile	Ser	Trp	Glu	Leu	Arg	Gln	Thr	Leu	Ser	Val	230	235	240
Val	Phe	Asp	Ala	Phe	Ile	Thr	Gly	Gln	Gly	Lys	Lys	Asp	Trp	Ser	245	250	255
Leu	Phe	Arg	Met	Phe	Ser	Arg	Thr	Leu	Thr	Glu	Pro	Cys	Pro	Leu	260	265	270
Ala	Ser	Glu	Ser	Arg	Val	Tyr	Val	Asp	Ile	Thr	Thr	Tyr	Asn	Gln	275	280	285
Asp	Asn	Glu	Thr	Leu	Glu	Val	His	Pro	Pro	Pro	Thr	Thr	Thr	Tyr	290	295	300
Gln	Asp	Val	Ile	Leu	Gly	Thr	Arg	Lys	Thr	Tyr	Ala	Ile	Tyr	Asp	305	310	315
Leu	Leu	Asp	Thr	Ala	Met	Ile	Asn	Asn	Ser	Arg	Asn	Leu	Asn	Ile			

[illegible]

```
<210> 341
<211> 24
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Synthetic oligonucleotide probe

<400> 341  
tggacaccgt accctggtat ctgc 24

<210> 342  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> Artificial Sequence  
<222> 1-24  
<223> Synthetic oligonucleotide probe

<400> 342  
ccaactctga ggagagcaag tggc 24

<210> 343  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 343  
tgtatgtgca caccctcacc atcacctcca agggcaagga gaac 44

<210> 344  
<211> 762  
<212> DNA  
<213> Homo sapiens

<400> 344  
caacatgggg tccagcagct tcttggctct catgggtgtct ctcgttcttg 50  
tgaccctggg ggctgtggaa ggagttaaag agggatataga gaaagcaggg 100  
gtttgcccag ctgacaacgt acgctgcttc aagtccgatc ctccccagtg 150  
tcacacagac caggactgtc tgggggaaag gaagtgttgt tacctgcact 200  
gtggcttcaa gtgtgtgatt cctgtgaagg aactggaaga aggaggaaac 250  
aaggatgaag atgtgtcaag gccataccct gagccaggat gggaggccaa 300  
gtgtccaggc tcctcctcta ccagggtgtcc tcagaaatga tgctgggtcc 350  
tttctacctc tgggggtcac tctcacttgg cacctgcccc tgagggtcct 400  
gagacttggg atatggaaga agcaataccc aacccaccca aagaaaacct 450  
gagcttgaag tccttttccc caaaaagagg gaagagtcac aaaaagtcca 500  
gaccccaggg acggtacttt ccctctctac ctggtgctcc tccctaatagc 550



tcatgaatgg acccctcatg aatgaaacca gtgcccttat aagagacccc 600  
aaagagctgc cttgcccttc tgcaatgtgt gatcacagct agaaggcact 650  
gtcagagaag agaaactggc cctcaccaga tgctgaatct gctgggtgcct 700  
tgatcttgga cttcccagcc tctagaactg taagaaataa atatttgctg 750  
tttataatcc aa 762

<210> 345  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 345  
Met Gly Ser Ser Ser Phe Leu Val Leu Met Val Ser Leu Val Leu  
1 5 10 15  
Val Thr Leu Val Ala Val Glu Gly Val Lys Glu Gly Ile Glu Lys  
20 25 30  
Ala Gly Val Cys Pro Ala Asp Asn Val Arg Cys Phe Lys Ser Asp  
35 40 45  
Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys  
50 55 60  
Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys  
65 70 75  
Glu Leu Glu Glu Gly Gly Asn Lys Asp Glu Asp Val Ser Arg Pro  
80 85 90  
Tyr Pro Glu Pro Gly Trp Glu Ala Lys Cys Pro Gly Ser Ser Ser  
95 100 105  
Thr Arg Cys Pro Gln Lys  
110

<210> 346  
<211> 2528  
<212> DNA  
<213> Homo sapiens

<400> 346  
aaactcagca cttgccggag tggctcattg ttaagacaaa ggggtgtgcac 50  
ttcctggcca ggaaacctga gcggtgagac tcccagctgc ctacatcaag 100  
gccccaggac atgcagaacc ttcctctaga acccgaccca ccaccatgag 150  
gtcctgcctg tggagatgca ggcacctgag ccaaggcgtc cagtggctcct 200  
tgcttctggc tgtcctggtc ttctttctct tcgccttgcc ctcttttatt 250  
aaggagcctc aaacaaagcc ttccaggcat caacgcacag agaacattaa 300

agaaaggtct ctacagtccc tggcaaagcc taagtcccag gcacccacaa 350  
 gggcgaggag gacaaccatc tatgcagagc cagcgccaga gaacaatgcc 400  
 ctcaacacac aaaccagcc caaggccac accaccggag acagaggaaa 450  
 ggaggccaac caggcaccgc cggaggagca ggacaaggtg cccacacag 500  
 cacagagggc agcatggaag agcccagaaa aagagaaaac catggtgaac 550  
 aactgtcac ccagagggca agatgcaggg atggcctctg gcaggacaga 600  
 ggcacaatca tggaagagcc aggacacaaa gacgaccaa ggaaatgggg 650  
 gccagaccag gaagctgacg gcctccagga cgggtgtcaga gaagcaccag 700  
 ggcaaagcgg caaccacagc caagacgctc attcccaaaa gtcagcacag 750  
 aatgctggct cccacaggag cagtgtcaac aaggacgaga cagaaaggag 800  
 tgaccacagc agtcatccca cctaaggaga agaaaccta gccacccca 850  
 cccctgccc ctttcagag cccacgacg cagagaaacc aaagactgaa 900  
 ggccgccaac ttcaaactg agcctcgggtg ggattttgag gaaaaataca 950  
 gcttcgaaat aggaggcctt cagacgactt gccctgactc tgtgaagatc 1000  
 aaagcctcca agtcgctgtg gctccagaaa ctctttctgc ccaacctcac 1050  
 tctcttctg gactccagac acttcaacca gagtgagtgg gaccgcctgg 1100  
 aacactttgc accaccctt ggcttcatgg agctcaacta ctccttggtg 1150  
 cagaaggtcg tgacacgctt ccctccagtg cccagcagc agctgctcct 1200  
 ggccagcctc cccgctggga gcctccgggtg catcacctgt gccgtgggtg 1250  
 gcaacggggg catcctgaac aactcccaca tgggccagga gatagacagt 1300  
 cacgactacg tgttccgatt gagcggagct ctcattaaag gctacgaaca 1350  
 ggatgtgggg actcggacat ccttctacgg ctttaccgcc ttctccctga 1400  
 cccagtcact ccttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450  
 gggaaggacg tccgctactt gcacttctg gaaggcacc gggactatga 1500  
 gtggctggaa gcactgctta tgaatcagac ggtgatgtca aaaaacctt 1550  
 tctggttcag gcacagacc caggaagctt ttcgggaagc cctgcacatg 1600  
 gacaggtacc tggtgtgca cccagacttt ctccgataca tgaagaacag 1650  
 gtttctgagg tctaagacc tggatgggtc cactggagg atataccgcc 1700  
 ccaccactgg ggccctcctg ctgctcactg cccttcagct ctgtgaccag 1750

gtgagtgcctt atggcttcat cactgagggc catgagcgc tttctgatca 1800  
ctactatgat acatcatgga agcggctgat cttttacata aaccatgact 1850  
tcaagctgga gagagaagtc tggaagcggc tacacgatga agggataatc 1900  
cggctgtacc agcgtcctgg tcccggaaact gccaaagcca agaactgacc 1950  
ggggccaggg ctgccatggc ctccttgccct gctccaaggc acaggataca 2000  
gtgggaatct tgagactctt tggccatttc ccatggctca gactaagctc 2050  
caagcccttc aggagttcca agggaaact tgaacatgg acaagactct 2100  
ctcaagatgg caaatggcta attgaggttc tgaagttctt cagtacattg 2150  
ctgtaggctc tgaggccagg gatttttaaat taaatggggc gatgggtggc 2200  
caataccaca attcctgctg aaaaacactc ttccagtcca aaagcttctt 2250  
gatacagaaa aaagagcctg gatttacaga aacatataga tctggtttga 2300  
attccagatc gagtttacag ttgtgaaatc ttgaaggtat tacttaactt 2350  
cactacagat tgtctagaag acctttctag gagttatctg attctagaag 2400  
ggtctatact tgtccttgct tttaagctat ttgacaactc tacgtgttgt 2450  
agaaaactga taataatata aatgattggt gtccatggaa aggcaaataa 2500  
attttctaca gtgaaaaaaaa aaaaaaaaa 2528

<210> 347

<211> 600

<212> PRT

<213> Homo sapiens

<400> 347

Met	Arg	Ser	Cys	Leu	Trp	Arg	Cys	Arg	His	Leu	Ser	Gln	Gly	Val
1				5					10					15
Gln	Trp	Ser	Leu	Leu	Leu	Ala	Val	Leu	Val	Phe	Phe	Leu	Phe	Ala
				20					25					30
Leu	Pro	Ser	Phe	Ile	Lys	Glu	Pro	Gln	Thr	Lys	Pro	Ser	Arg	His
				35					40					45
Gln	Arg	Thr	Glu	Asn	Ile	Lys	Glu	Arg	Ser	Leu	Gln	Ser	Leu	Ala
				50					55					60
Lys	Pro	Lys	Ser	Gln	Ala	Pro	Thr	Arg	Ala	Arg	Arg	Thr	Thr	Ile
				65					70					75
Tyr	Ala	Glu	Pro	Ala	Pro	Glu	Asn	Asn	Ala	Leu	Asn	Thr	Gln	Thr
				80					85					90
Gln	Pro	Lys	Ala	His	Thr	Thr	Gly	Asp	Arg	Gly	Lys	Glu	Ala	Asn
				95					100					105

Gln	Ala	Pro	Pro	Glu	Glu	Gln	Asp	Lys	Val	Pro	His	Thr	Ala	Gln	
				110					115					120	
Arg	Ala	Ala	Trp	Lys	Ser	Pro	Glu	Lys	Glu	Lys	Thr	Met	Val	Asn	
				125					130					135	
Thr	Leu	Ser	Pro	Arg	Gly	Gln	Asp	Ala	Gly	Met	Ala	Ser	Gly	Arg	
				140					145					150	
Thr	Glu	Ala	Gln	Ser	Trp	Lys	Ser	Gln	Asp	Thr	Lys	Thr	Thr	Gln	
				155					160					165	
Gly	Asn	Gly	Gly	Gln	Thr	Arg	Lys	Leu	Thr	Ala	Ser	Arg	Thr	Val	
				170					175					180	
Ser	Glu	Lys	His	Gln	Gly	Lys	Ala	Ala	Thr	Thr	Ala	Lys	Thr	Leu	
				185					190					195	
Ile	Pro	Lys	Ser	Gln	His	Arg	Met	Leu	Ala	Pro	Thr	Gly	Ala	Val	
				200					205					210	
Ser	Thr	Arg	Thr	Arg	Gln	Lys	Gly	Val	Thr	Thr	Ala	Val	Ile	Pro	
				215					220					225	
Pro	Lys	Glu	Lys	Lys	Pro	Gln	Ala	Thr	Pro	Pro	Pro	Ala	Pro	Phe	
				230					235					240	
Gln	Ser	Pro	Thr	Thr	Gln	Arg	Asn	Gln	Arg	Leu	Lys	Ala	Ala	Asn	
				245					250					255	
Phe	Lys	Ser	Glu	Pro	Arg	Trp	Asp	Phe	Glu	Glu	Lys	Tyr	Ser	Phe	
				260					265					270	
Glu	Ile	Gly	Gly	Leu	Gln	Thr	Thr	Cys	Pro	Asp	Ser	Val	Lys	Ile	
				275					280					285	
Lys	Ala	Ser	Lys	Ser	Leu	Trp	Leu	Gln	Lys	Leu	Phe	Leu	Pro	Asn	
				290					295					300	
Leu	Thr	Leu	Phe	Leu	Asp	Ser	Arg	His	Phe	Asn	Gln	Ser	Glu	Trp	
				305					310					315	
Asp	Arg	Leu	Glu	His	Phe	Ala	Pro	Pro	Phe	Gly	Phe	Met	Glu	Leu	
				320					325					330	
Asn	Tyr	Ser	Leu	Val	Gln	Lys	Val	Val	Thr	Arg	Phe	Pro	Pro	Val	
				335					340					345	
Pro	Gln	Gln	Gln	Leu	Leu	Leu	Ala	Ser	Leu	Pro	Ala	Gly	Ser	Leu	
				350					355					360	
Arg	Cys	Ile	Thr	Cys	Ala	Val	Val	Gly	Asn	Gly	Gly	Ile	Leu	Asn	
				365					370					375	
Asn	Ser	His	Met	Gly	Gln	Glu	Ile	Asp	Ser	His	Asp	Tyr	Val	Phe	
				380					385					390	
Arg	Leu	Ser	Gly	Ala	Leu	Ile	Lys	Gly	Tyr	Glu	Gln	Asp	Val	Gly	

	395		400		405
Thr Arg Thr Ser Phe Tyr Gly Phe Thr	Ala Phe Ser Leu Thr Gln				
410	415	420			
Ser Leu Leu Ile Leu Gly Asn Arg Gly	Phe Lys Asn Val Pro Leu				
425	430	435			
Gly Lys Asp Val Arg Tyr Leu His Phe	Leu Glu Gly Thr Arg Asp				
440	445	450			
Tyr Glu Trp Leu Glu Ala Leu Leu Met	Asn Gln Thr Val Met Ser				
455	460	465			
Lys Asn Leu Phe Trp Phe Arg His Arg	Pro Gln Glu Ala Phe Arg				
470	475	480			
Glu Ala Leu His Met Asp Arg Tyr Leu	Leu Leu His Pro Asp Phe				
485	490	495			
Leu Arg Tyr Met Lys Asn Arg Phe Leu	Arg Ser Lys Thr Leu Asp				
500	505	510			
Gly Ala His Trp Arg Ile Tyr Arg Pro	Thr Thr Gly Ala Leu Leu				
515	520	525			
Leu Leu Thr Ala Leu Gln Leu Cys Asp	Gln Val Ser Ala Tyr Gly				
530	535	540			
Phe Ile Thr Glu Gly His Glu Arg Phe	Ser Asp His Tyr Tyr Asp				
545	550	555			
Thr Ser Trp Lys Arg Leu Ile Phe Tyr	Ile Asn His Asp Phe Lys				
560	565	570			
Leu Glu Arg Glu Val Trp Lys Arg Leu	His Asp Glu Gly Ile Ile				
575	580	585			
Arg Leu Tyr Gln Arg Pro Gly Pro Gly	Thr Ala Lys Ala Lys Asn				
590	595	600			

<210> 348

<211> 496

<212> DNA

<213> Homo sapiens

<400> 348

cgatgcgcgg acccgggcac cccctcctcc tggggctgct gctggtgctg 50

gggccttcgc cggagcagcg agtggaaatt gttcctcgag atctgaggat 100

gaaggacaag tttctaaaac accttacagg ccctctttat tttagtccaa 150

agtgcagcaa acacttccat agactttatc acaacaccag agactgcacc 200

attcctgcat actataaaaag atgcgccagg cttcttacct ggctggctgt 250

cagtccagtg tgcattggagg ataagtgagc agaccgtaca ggagcagcac 300

**SECRET**

<211> 91

<213> Homo sapiens

Met	Arg	Gly	Pro	Gly	His	Pro	Leu	Leu	Leu	Gly	Leu	Leu	Leu	Val
1				5					10					15

Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp  
20 25 30

Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
35 40 45

Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
50 55 60

Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
65 70 75

Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
80 85 90

<211> 1141

<213> Homo sapiens

qqqctgggcc ccgccgcagc tccagctggc cggcttggtc ctgctggtccc 50

ttctctggga ggcccgaccc cggccgcgcc cagccccac catgccaccc 100

gcgggggctcc gccggggccgc gccgctcacc gcaatcgctc tgttggtgct 150

qggggctccc ctggtgctgg ccggcgagga ctgcctgtgg tacctggacc 200

ggaatggctc ctggcatccg gggtttaact gcgagttctt caccttctgc 250

tgcgggacct gctaccatcg gtactgctgc agggacctga ccttgcttat 300

caccqagaag cagcagaagc actgcctggc cttcagcccc aagaccatag 350

caggcatcgc ctcagctgtg atcctctttg ttgctgtggt tgccaccacc 400

atctgctgct tcctctgttc ctgttgctac ctgtaccgcc ggcgccagca 450

gctccagagc ccatttgaag gccaggagat tccaatgaca ggcatcccag 500  
 tgcagccagt ataccatac cccagggacc ccaaagctgg ccctgcaccc 550  
 ccacagcctg gcttcatgta cccacctagt ggtcctgctc cccaatatcc 600  
 actctaccca gctgggcccc cagtctacaa ccctgcagct cctcctccct 650  
 atatgccacc acagccctct taccggggag cctgaggaac cagccatgtc 700  
 tctgctgccc cttcagtgat gccaaccttg ggagatgccc tcacccctgta 750  
 cctgcatctg gtcctggggg tggcaggagt cctccagcca ccaggcccca 800  
 gaccaagcca agccctgggc cctactgggg acagagcccc aggggaagtgg 850  
 aacaggagct gaactagaac tatgaggggt tggggggagg gcttgggaatt 900  
 atgggctatt tttactgggg gcaagggagg gagatgacag cctgggtcac 950  
 agtgccgtgt ttcaaatagt ccctctgctc ccaagatccc agccaggaag 1000  
 gctggggccc tactgtttgt cccctctggg ctgggggtggg gggagggagg 1050  
 aggttccgtc agcagctggc agtagccctc ctctctggct gcccactgg 1100  
 ccacatctct ggccctgctag attaaagctg taaagacaaa a 1141

<210> 351  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

<400> 351  
 Met Pro Pro Ala Gly Leu Arg Arg Ala Ala Pro Leu Thr Ala Ile  
 1 5 10 15  
 Ala Leu Leu Val Leu Gly Ala Pro Leu Val Leu Ala Gly Glu Asp  
 20 25 30  
 Cys Leu Trp Tyr Leu Asp Arg Asn Gly Ser Trp His Pro Gly Phe  
 35 40 45  
 Asn Cys Glu Phe Phe Thr Phe Cys Cys Gly Thr Cys Tyr His Arg  
 50 55 60  
 Tyr Cys Cys Arg Asp Leu Thr Leu Leu Ile Thr Glu Arg Gln Gln  
 65 70 75  
 Lys His Cys Leu Ala Phe Ser Pro Lys Thr Ile Ala Gly Ile Ala  
 80 85 90  
 Ser Ala Val Ile Leu Phe Val Ala Val Val Ala Thr Thr Ile Cys  
 95 100 105  
 Cys Phe Leu Cys Ser Cys Cys Tyr Leu Tyr Arg Arg Arg Gln Gln  
 110 115 120

Leu Gln Ser Pro Phe Glu Gly Gln Glu Ile Pro Met Thr Gly Ile  
 125 130 135  
 Pro Val Gln Pro Val Tyr Pro Tyr Pro Gln Asp Pro Lys Ala Gly  
 140 145 150  
 Pro Ala Pro Pro Gln Pro Gly Phe Met Tyr Pro Pro Ser Gly Pro  
 155 160 165  
 Ala Pro Gln Tyr Pro Leu Tyr Pro Ala Gly Pro Pro Val Tyr Asn  
 170 175 180  
 Pro Ala Ala Pro Pro Pro Tyr Met Pro Pro Gln Pro Ser Tyr Pro  
 185 190 195  
 Gly Ala

<210> 352  
 <211> 3226  
 <212> DNA  
 <213> Homo sapiens

<400> 352  
 ggggggagcta ggccggcggc agtggtggtg gcggcgggcg aagggtgagg 50  
 gcggccccag aaccccaggt aggtagagca agaagatggt gtttctgccc 100  
 ctcaaagtgt cccttgcaac catgtcattt ctactttcct cactgttggc 150  
 tctcttaact gtgtccactc cttcatggtg tcagagcact gaagcatctc 200  
 caaaacgtag tgatgggaca ccatttcctt ggaataaaat acgacttcct 250  
 gagtacgtca tcccagttca ttatgatctc ttgatccatg caaaccttac 300  
 cacgctgacc ttctggggaa ccacgaaagt agaaatcaca gccagtcagc 350  
 ccaccagcac catcatcctg catagtcacc acctgcagat atctagggcc 400  
 accctcagga agggagctgg agagaggcta tcggaagaac ccctgcaggt 450  
 cctggaacac cccctcagg agcaaatgac actgctgggt cccgagcccc 500  
 tccttgtegg gctcccgta acagttgtca ttcactatgc tggcaatctt 550  
 tcggagactt tccacggatt ttacaaaagc acctacagaa ccaaggaagg 600  
 ggaactgagg atactagcat caacacaatt tgaaccact gcagctagaa 650  
 tggcctttcc ctgctttgat gaacctgcct tcaaagcaag tttctcaatc 700  
 aaaattagaa gagagccaag gcacctagcc atctccaata tgccattggt 750  
 gaaatctgtg actgttgctg aaggactcat agaagaccat tttgatgtca 800  
 ctgtgaagat gagcacctat ctggtggcct tcatcatttc agattttgag 850



tctgtcagca agataaccaa gagtggagtc aaggtttctg tttatgctgt 900  
gccagacaag ataaatcaag cagattatgc actggatgct gcggtgactc 950  
ttctagaatt ttatgaggat tatttcagca taccgtatcc cctacccaaa 1000  
caagatcttg ctgctattcc cgactttcag tctggtgcta tggaaaactg 1050  
gggactgaca acatatagag aatctgctct gttgtttgat gcagaaaagt 1100  
cttctgcac aagtaagctt ggcacacag tgactgtggc ccatgaactg 1150  
gcccaccagt ggtttgggaa cctggtcact atggaatggt ggaatgatct 1200  
ttggctaaat gaaggatttg ccaaatttat ggagtttggt tctgtcagt 1250  
tgacccatcc tgaactgaaa gttggagatt atttctttgg caaatgtttt 1300  
gacgcaatgg aggtagatgc tttaaattcc tcacaccctg tgtctacacc 1350  
tgtggaaaat cctgctcaga tccgggagat gtttgatgat gtttcttatg 1400  
ataagggagc ttgtattctg aatatgctaa gggagtatct tagcgctgac 1450  
gcatttaaaa gtggtattgt acagtatctc cagaagcata gctataaaaa 1500  
tacaaaaaac gaggacctgt gggatagtat ggcaagtatt tgccctacag 1550  
atggtgtaaa agggatggat ggcttttgct ctagaagtca acattcatct 1600  
tcacctcac attggcatca ggaaggggtg gatgtgaaaa ccatgatgaa 1650  
cacttgga ca ctgcagagg gttttccct aataaccatc acagtgagg 1700  
ggaggaatgt acacatgaag caagagcact acatgaagg ctctgacggc 1750  
gccccggaca ctgggtacct gtggcatgtt ccattgacat tcacaccag 1800  
caaatccaac atggtccatc gatttttgct aaaaacaaaa acagatgtgc 1850  
tcacctccc agaagagggtg gaatggatca aatttaagt gggcatgaat 1900  
ggctattaca ttgtgcatta cgaggatgat ggatgggact ctttgactgg 1950  
ccttttaaaa ggaacacaca cagcagtcag cagtaatgat cgggcaagtc 2000  
tcattaacaa tgcatttcag ctgcgcagca ttgggaagct gtccattgaa 2050  
aaggccttgg atttatccct gtacttgaaa catgaaactg aaattatgcc 2100  
cgtgtttcaa ggtttgaatg agctgattcc tatgtataag ttaatggaga 2150  
aaagagatat gaatgaagt gaaactcaat tcaaggcctt cctcatcagg 2200  
ctgctaaggg acctcattga taagcagaca tggacagacg agggctcagt 2250  
ctcagagcaa atgctgcgga gtgaactact actcctcgcc tgtgtgcaca 2300

actatcagcc gtgcgtacag agggcagaag gctatttcag aaagtggaag 2350  
 gaatccaatg gaaacttgag cctgcctgtc gacgtgacct tggcagtgtt 2400  
 tgctgtgggg gccagagca cagaaggctg ggattttctt tatagtaaatt 2450  
 atcagttttc tttgtccagt actgagaaaa gccaaattga atttgccctc 2500  
 tgcagaaccc aaaataagga aaagcttcaa tggctactag atgaaagctt 2550  
 taaggagat aaaataaaaa ctcaggagt tccacaaatt cttacactca 2600  
 ttggcaggaa cccagtagga taccactgg cctggcaatt tctgaggaaa 2650  
 aactggaaca aacttgata aaagtttgaa cttggctcat cttccatagc 2700  
 ccacatggta atgggtacaa caaatcaatt ctccacaaga acacggcttg 2750  
 aagaggtaaa aggattcttc agctctttga aagaaaatgg ttctcagctc 2800  
 cgttgtgtcc aacagacaat tgaaaccatt gaagaaaaca tcggttggt 2850  
 ggataagaat tttgataaaa tcagagtgtg gctgcaaagt gaaaagcttg 2900  
 aacgtatgta aaaattcctc ccttgcccgg ttcctgttat ctctaatac 2950  
 caacattttg ttgagtgtat tttcaacta gagatggctg ttttggctcc 3000  
 aactggagat acttttttcc cttcaactca ttttttgact atccctgtga 3050  
 aaagaatagc tgtagtttt tcatgaatgg gctttttcat gaatgggcta 3100  
 tcgctaccat gtgttttgtt catcacaggt gttgccctgc aacgtaaacc 3150  
 caagtgttgg gttccctgcc acagaagaat aaagtacctt attcttctca 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaa 3226

<210> 353  
 <211> 941  
 <212> PRT  
 <213> Homo sapiens

<400> 353  
 Met Val Phe Leu Pro Leu Lys Trp Ser Leu Ala Thr Met Ser Phe  
 1 5 10 15  
 Leu Leu Ser Ser Leu Leu Ala Leu Leu Thr Val Ser Thr Pro Ser  
 20 25 30  
 Trp Cys Gln Ser Thr Glu Ala Ser Pro Lys Arg Ser Asp Gly Thr  
 35 40 45  
 Pro Phe Pro Trp Asn Lys Ile Arg Leu Pro Glu Tyr Val Ile Pro  
 50 55 60  
 Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr  
 65 70 75

103230"254660

Phe	Trp	Gly	Thr	Thr	Lys	Val	Glu	Ile	Thr	Ala	Ser	Gln	Pro	Thr	
				80					85					90	
Ser	Thr	Ile	Ile	Leu	His	Ser	His	His	Leu	Gln	Ile	Ser	Arg	Ala	
				95					100					105	
Thr	Leu	Arg	Lys	Gly	Ala	Gly	Glu	Arg	Leu	Ser	Glu	Glu	Pro	Leu	
				110					115					120	
Gln	Val	Leu	Glu	His	Pro	Pro	Gln	Glu	Gln	Ile	Ala	Leu	Leu	Ala	
				125					130					135	
Pro	Glu	Pro	Leu	Leu	Val	Gly	Leu	Pro	Tyr	Thr	Val	Val	Ile	His	
				140					145					150	
Tyr	Ala	Gly	Asn	Leu	Ser	Glu	Thr	Phe	His	Gly	Phe	Tyr	Lys	Ser	
				155					160					165	
Thr	Tyr	Arg	Thr	Lys	Glu	Gly	Glu	Leu	Arg	Ile	Leu	Ala	Ser	Thr	
				170					175					180	
Gln	Phe	Glu	Pro	Thr	Ala	Ala	Arg	Met	Ala	Phe	Pro	Cys	Phe	Asp	
				185					190					195	
Glu	Pro	Ala	Phe	Lys	Ala	Ser	Phe	Ser	Ile	Lys	Ile	Arg	Arg	Glu	
				200					205					210	
Pro	Arg	His	Leu	Ala	Ile	Ser	Asn	Met	Pro	Leu	Val	Lys	Ser	Val	
				215					220					225	
Thr	Val	Ala	Glu	Gly	Leu	Ile	Glu	Asp	His	Phe	Asp	Val	Thr	Val	
				230					235					240	
Lys	Met	Ser	Thr	Tyr	Leu	Val	Ala	Phe	Ile	Ile	Ser	Asp	Phe	Glu	
				245					250					255	
Ser	Val	Ser	Lys	Ile	Thr	Lys	Ser	Gly	Val	Lys	Val	Ser	Val	Tyr	
				260					265					270	
Ala	Val	Pro	Asp	Lys	Ile	Asn	Gln	Ala	Asp	Tyr	Ala	Leu	Asp	Ala	
				275					280					285	
Ala	Val	Thr	Leu	Leu	Glu	Phe	Tyr	Glu	Asp	Tyr	Phe	Ser	Ile	Pro	
				290					295					300	
Tyr	Pro	Leu	Pro	Lys	Gln	Asp	Leu	Ala	Ala	Ile	Pro	Asp	Phe	Gln	
				305					310					315	
Ser	Gly	Ala	Met	Glu	Asn	Trp	Gly	Leu	Thr	Thr	Tyr	Arg	Glu	Ser	
				320					325					330	
Ala	Leu	Leu	Phe	Asp	Ala	Glu	Lys	Ser	Ser	Ala	Ser	Ser	Lys	Leu	
				335					340					345	
Gly	Ile	Thr	Val	Thr	Val	Ala	His	Glu	Leu	Ala	His	Gln	Trp	Phe	
				350					355					360	
Gly	Asn	Leu	Val	Thr	Met	Glu	Trp	Trp	Asn	Asp	Leu	Trp	Leu	Asn	

				365					370					375
Glu	Gly	Phe	Ala	Lys 380	Phe	Met	Glu	Phe	Val 385	Ser	Val	Ser	Val	Thr 390
His	Pro	Glu	Leu	Lys 395	Val	Gly	Asp	Tyr	Phe 400	Phe	Gly	Lys	Cys	Phe 405
Asp	Ala	Met	Glu	Val 410	Asp	Ala	Leu	Asn	Ser 415	Ser	His	Pro	Val	Ser 420
Thr	Pro	Val	Glu	Asn 425	Pro	Ala	Gln	Ile	Arg 430	Glu	Met	Phe	Asp	Asp 435
Val	Ser	Tyr	Asp	Lys 440	Gly	Ala	Cys	Ile	Leu 445	Asn	Met	Leu	Arg	Glu 450
Tyr	Leu	Ser	Ala	Asp 455	Ala	Phe	Lys	Ser	Gly 460	Ile	Val	Gln	Tyr	Leu 465
Gln	Lys	His	Ser	Tyr 470	Lys	Asn	Thr	Lys	Asn 475	Glu	Asp	Leu	Trp	Asp 480
Ser	Met	Ala	Ser	Ile 485	Cys	Pro	Thr	Asp	Gly 490	Val	Lys	Gly	Met	Asp 495
Gly	Phe	Cys	Ser	Arg 500	Ser	Gln	His	Ser	Ser 505	Ser	Ser	Ser	His	Trp 510
His	Gln	Glu	Gly	Val 515	Asp	Val	Lys	Thr	Met 520	Met	Asn	Thr	Trp	Thr 525
Leu	Gln	Arg	Gly	Phe 530	Pro	Leu	Ile	Thr	Ile 535	Thr	Val	Arg	Gly	Arg 540
Asn	Val	His	Met	Lys 545	Gln	Glu	His	Tyr	Met 550	Lys	Gly	Ser	Asp	Gly 555
Ala	Pro	Asp	Thr	Gly 560	Tyr	Leu	Trp	His	Val 565	Pro	Leu	Thr	Phe	Ile 570
Thr	Ser	Lys	Ser	Asn 575	Met	Val	His	Arg	Phe 580	Leu	Leu	Lys	Thr	Lys 585
Thr	Asp	Val	Leu	Ile 590	Leu	Pro	Glu	Glu	Val 595	Glu	Trp	Ile	Lys	Phe 600
Asn	Val	Gly	Met	Asn 605	Gly	Tyr	Tyr	Ile	Val 610	His	Tyr	Glu	Asp	Asp 615
Gly	Trp	Asp	Ser	Leu 620	Thr	Gly	Leu	Leu	Lys 625	Gly	Thr	His	Thr	Ala 630
Val	Ser	Ser	Asn	Asp 635	Arg	Ala	Ser	Leu	Ile 640	Asn	Asn	Ala	Phe	Gln 645
Leu	Val	Ser	Ile	Gly 650	Lys	Leu	Ser	Ile	Glu 655	Lys	Ala	Leu	Asp	Leu 660

**SECRET**

<210> 354

<211> 1587  
 <212> DNA  
 <213> Homo sapiens

<400> 354  
 cagccacaga cgggtcatga gcgcggtatt actgctggcc ctcttggggt 50  
 tcctcctccc actgccagga gtgcaggcgc tgctctgcca gtttgggaca 100  
 gttcagcatg tgtggaaggt gtccgaccta ccccggaat ggaccctaa 150  
 gaacaccagc tgcgacagcg gcttggggtg ccaggacacg ttgatgctca 200  
 ttgagagcgg accccaagtg agcctggtgc tctccaaggg ctgcacggag 250  
 gccaaaggacc aggagccccg cgtcactgag caccggatgg gccccggcct 300  
 ctccctgatc tcctacacct tcgtgtgccg ccaggaggac ttctgcaaca 350  
 acctcgtaa ctccctcccg ctttggggcc cacagcccc agcagacca 400  
 ggatccttga ggtgcccagt ctgcttgtct atggaaggct gtctggaggg 450  
 gacaacagaa gagatctgcc ccaaggggac cacacactgt tatgatggcc 500  
 tcctcaggct caggggagga ggcatcttct ccaatctgag agtccaggga 550  
 tgcattgccc agccagggtg caacctgctc aatgggacac aggaaattgg 600  
 gcccgtgggt atgactgaga actgcaatag gaaagatttt ctgacctgtc 650  
 atcgggggac caccattatg acacacggaa acttgggtca agaaccact 700  
 gattggacca catcgaatac cgagatgtgc gaggtggggc aggtgtgtca 750  
 ggagacgctg ctgctcatag atgtaggact cacatcaacc ctggtgggga 800  
 caaaaggctg cagcactgtt ggggtcaaaa attcccagaa gaccaccatc 850  
 cactcagccc ctcttggggt gcttgtggcc tcctataccc acttctgctc 900  
 ctcggaacctg tgcaatagtg ccagcagcag cagcgttctg ctgaactccc 950  
 tccctcctca agctgcccct gtcccaggag accggcagtg tcctacctgt 1000  
 gtgcagcccc ttggaacctg ttcaagtggc tcccccgaa tgacctgcc 1050  
 caggggcgcc actcattgtt atgatgggta cattcatctc tcaggagggtg 1100  
 ggctgtccac caaaatgagc attcagggtg gcgtggcca acctccagc 1150  
 ttcttgttga accacaccag acaaatcggg atcttctctg cgcgtgagaa 1200  
 gcgtgatgtg cagcctcctg cctctcagca tgaggagggt ggggctgagg 1250  
 gcctggagtc tctcacttgg ggggtggggc tggcactggc cccagcgtg 1300  
 tgggtggggag tggtttgccc ttctgtctaa ctctattacc cccacgattc 1350

ttcaccgctg ctgaccaccc acactcaacc tccctctgac ctcataacct 1400  
aatggccttg gacaccagat tctttcccat tctgtccatg aatcatcttc 1450  
cccacacaca atcattcata tctactcacc taacagcaac actggggaga 1500  
gcctggagca tccggacttg ccctatggga gaggggacgc tggaggagtg 1550  
gctgcatgta tctgataata cagaccctgt cctttca 1587

<210> 355  
<211> 437  
<212> PRT  
<213> Homo sapiens

<400> 355  
Met Ser Ala Val Leu Leu Leu Ala Leu Leu Gly Phe Ile Leu Pro  
1 5 10 15  
Leu Pro Gly Val Gln Ala Leu Leu Cys Gln Phe Gly Thr Val Gln  
20 25 30  
His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys  
35 40 45  
Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met  
50 55 60  
Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly  
65 70 75  
Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg  
80 85 90  
Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg  
95 100 105  
Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp  
110 115 120  
Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val  
125 130 135  
Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile  
140 145 150  
Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu  
155 160 165  
Arg Gly Gly Gly Ile Phe Ser Asn Leu Arg Val Gln Gly Cys Met  
170 175 180  
Pro Gln Pro Gly Cys Asn Leu Leu Asn Gly Thr Gln Glu Ile Gly  
185 190 195  
Pro Val Gly Met Thr Glu Asn Cys Asn Arg Lys Asp Phe Leu Thr  
200 205 210

103230 25674650

Cys	His	Arg	Gly	Thr	Thr	Ile	Met	Thr	His	Gly	Asn	Leu	Ala	Gln	
				215					220					225	
Glu	Pro	Thr	Asp	Trp	Thr	Thr	Ser	Asn	Thr	Glu	Met	Cys	Glu	Val	
				230					235					240	
Gly	Gln	Val	Cys	Gln	Glu	Thr	Leu	Leu	Leu	Ile	Asp	Val	Gly	Leu	
				245					250					255	
Thr	Ser	Thr	Leu	Val	Gly	Thr	Lys	Gly	Cys	Ser	Thr	Val	Gly	Ala	
				260					265					270	
Gln	Asn	Ser	Gln	Lys	Thr	Thr	Ile	His	Ser	Ala	Pro	Pro	Gly	Val	
				275					280					285	
Leu	Val	Ala	Ser	Tyr	Thr	His	Phe	Cys	Ser	Ser	Asp	Leu	Cys	Asn	
				290					295					300	
Ser	Ala	Ser	Ser	Ser	Ser	Val	Leu	Leu	Asn	Ser	Leu	Pro	Pro	Gln	
				305					310					315	
Ala	Ala	Pro	Val	Pro	Gly	Asp	Arg	Gln	Cys	Pro	Thr	Cys	Val	Gln	
				320					325					330	
Pro	Leu	Gly	Thr	Cys	Ser	Ser	Gly	Ser	Pro	Arg	Met	Thr	Cys	Pro	
				335					340					345	
Arg	Gly	Ala	Thr	His	Cys	Tyr	Asp	Gly	Tyr	Ile	His	Leu	Ser	Gly	
				350					355					360	
Gly	Gly	Leu	Ser	Thr	Lys	Met	Ser	Ile	Gln	Gly	Cys	Val	Ala	Gln	
				365					370					375	
Pro	Ser	Ser	Phe	Leu	Leu	Asn	His	Thr	Arg	Gln	Ile	Gly	Ile	Phe	
				380					385					390	
Ser	Ala	Arg	Glu	Lys	Arg	Asp	Val	Gln	Pro	Pro	Ala	Ser	Gln	His	
				395					400					405	
Glu	Gly	Gly	Gly	Ala	Glu	Gly	Leu	Glu	Ser	Leu	Thr	Trp	Gly	Val	
				410					415					420	
Gly	Leu	Ala	Leu	Ala	Pro	Ala	Leu	Trp	Trp	Gly	Val	Val	Cys	Pro	
				425					430					435	

Ser Cys

<210> 356

<211> 1238

<212> DNA

<213> Homo sapiens

<400> 356

gcgacgggca ggacgccccg ttcgcctagc gcgtgctcag gagttggtgt 50

cctgcctgcg ctcaggatga gggggaatct ggccttggtg ggcgttctaa 100



tcagcctggc	cttctctgtca	ctgctgccat	ctggacatcc	tcagccggct	150
ggcgatgacg	cctgctctgt	gcagatcctc	gtccctggcc	tcaaagggga	200
tgcgggagag	aagggagaca	aaggcgcccc	cggacggcct	ggaagagtcg	250
gccccacggg	agaaaaagga	gacatggggg	acaaaggaca	gaaaggcagt	300
gtgggtcgtc	atggaaaaat	tggtcccatt	ggctctaaag	gtgagaaagg	350
agattccggg	gacataggac	cccctggtec	taatggagaa	ccaggcctcc	400
catgtgagtg	cagccagctg	cgcaaggcca	tcggggagat	ggacaaccag	450
gtctctcagc	tgaccagcga	gctcaagttc	atcaagaatg	ctgtcgccgg	500
tgtgcgcgag	acggagagca	agatctacct	gctgggtgaag	gaggagaagc	550
gctacgcgga	cgcccagctg	tcctgccagg	gccgcggggg	cacgctgagc	600
atgcccgaag	acgaggctgc	caatggcctg	atggccgcat	acctggcgca	650
agccggcctg	gcccgtgtct	tcatcggcat	caacgacctg	gagaaggagg	700
gcgccttcgt	gtactctgac	cactccccca	tgcggacctt	caacaagtgg	750
cgcagcggtg	agcccaacaa	tgcttacgac	gaggaggact	gcgtggagat	800
ggtggcctcg	ggcggctgga	acgacgtggc	ctgccacacc	accatgtact	850
tcatgtgtga	gtttgacaag	gagaacatgt	gagcctcagg	ctggggctgc	900
ccattggggg	ccccacatgt	ccctgcaggg	ttggcaggga	cagagcccag	950
accatggtgc	cagccaggga	gctgtccctc	tgtgaagggt	ggaggctcac	1000
tgagtagagg	gctgttgtct	aaactgagaa	aatggcctat	gcttaagagg	1050
aaaatgaaag	tgttcctggg	gtgctgtctc	tgaagaagca	gagtttcatt	1100
acctgtattg	tagccccaat	gtcattatgt	aattattacc	cagaattgct	1150
cttcataaaa	gcttgtgcct	ttgtccaagc	tatacaataa	aatctttaag	1200
tagtgcgagta	gttaagtcca	aaaaaaaaaa	aaaaaaaa	1238	

<210> 357

<212> PRT

<400> 357

Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp  
20 25 30

T.03220.2541660

Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp	
				35					40					45	
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg	
				50					55					60	
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln	
				65					70					75	
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser	
				80					85					90	
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro	
				95					100					105	
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys	
				110					115					120	
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu	
				125					130					135	
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu	
				140					145					150	
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp	
				155					160					165	
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro	
				170					175					180	
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln	
				185					190					195	
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys	
				200					205					210	
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe	
				215					220					225	
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu	
				230					235					240	
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala	
				245					250					255	
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn	
				260					265					270	

Met

<210> 358

<211> 972

<212> DNA

<213> Homo sapiens

<400> 358

agtgactgca gccttcctag atccccctcca ctcggtttct ctctttgcag 50

102202302450

gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100  
gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150  
aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtggtt 250  
cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
gccaggctag cacagatcct aaggaatcaa catctcccgga gaaacgtgac 400  
atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
gggaaaagaca ggacctttct taccttcagt gagggttcct cggccccttc 500  
atcccaatca gcttggatcc acaggaaaagt cttccctggg aacagaggag 550  
cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
cagctttggc atcctcaagt atcccccag agcagaatag gtactccact 650  
tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
caggtgcgca cgctcctgtt accctttctc ttccctgttc ttgtaacatt 750  
cttgtgcttt gactccttct ccatcttttc tacctgacct tgggtgtggaa 800  
actgcatagt gaatatcccc aaccccaatg ggcattgact gtagaatacc 850  
ctagagtcc tgtagtgtcc tacattaaaa atataatgtc tctctctatt 900  
cctcaacaat aaaggatttt tgcatatgaa aaaaaaaaaa aaaaaaaaaa 950  
aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 359  
Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu  
1 5 10 15  
Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val  
20 25 30  
Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln  
35 40 45  
Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu  
50 55 60  
Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr  
65 70 75

Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met  
80 85 90

Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu  
95 100 105

Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly  
110 115 120

Ser Thr Gly Lys Ser Ser Leu Gly Thr Glu Glu Gln Arg Pro Leu  
125 130 135

<210> 360  
<211> 1738  
<212> DNA  
<213> Homo sapiens

<400> 360  
gggcgtctcc ggctgctcct attgagctgt ctgctcgctg tgcccgtgt 50

gcctgctgtg cccgcgctgt cgccgctgct accgcgtctg ctggacgcgg 100

gagacgccag cgagctgggtg attggagccc tgcggagagc tcaagcggcc 150

agctctgccc caggagccca ggctgccccg tgagtcccat agttgctgca 200

ggagtggagc catgagctgc gtcctgggtg gtgtcatccc cttggggctg 250

ctgttctctg tctgcggatc ccaaggctac ctctgcccc acgtcactct 300

cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350

tccgcagagc catccccagg gaggacaagg aggagatcct catgctgcac 400

aacaagcttc ggggccaggt gcagcctcag gcctccaaca tggagtacat 450

ggtgagcgcc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500

gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550

tgtgatggct ggctcagggc ctctctggc aggggaggat cccggctctg 600

ttctgttttg tttgtttgtt ttgagacagg gtctcactct gccactgacg 650

ctggagtgca atggcacaat cgtcatgccc tgaaacctta gactcccggg 700

gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750

accatggtgc ccagctagat tttaaatatt ttgtggagat gggggctctg 800

ctacgttgcc caggctgggtc ttgaactcct aggctcaagc aatcctcctg 850

cctcagcctc tcaaagtgtc aggattatag gcatgagtca ccctgtctgg 900

ctctggctct gttcttaaca ttctgccaaa acaacacacg tgggttcct 950

gtgcagagcc tgccctggtg ccttcatgtc actcttggtg gctccactgg 1000

gaacacagct ctcagccttt cccacctgga ggagagtggt ggagggggccc 1050  
 agggctgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100  
 accaccctga cttctcctta gcccgtgtga gcctcacttt ccacttggag 1150  
 agtccttcct cgcgtgggtg ccatgactgt gagataagtc gaggctgtga 1200  
 agggcccggc acagactgac ctgcctcccc aacccttagg ctttgctaac 1250  
 cgggaaagga gctaacggtg acagaagaca gccaaaggtca accctcccgg 1300  
 gtgattgtga tgggtgttcc aggtgtgggt gggcgatgct gctacttgac 1350  
 cccaagctcc agtgtggaaa cttccttcct ggctgggttt ccagaactac 1400  
 agaggaatgg accacagtct tccaggggtcc ctctcgtcc accaaccggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatggctttt taaacaaacc 1500  
 cacgtcccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550  
 caagttagcc gggcatggtg gtgcgcacct gtagtcccag ctgcagtggg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagttag ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361

<211> 159

<212> PRT

<213> Homo sapiens

<400> 361

Met	Ser	Cys	Val	Leu	Gly	Gly	Val	Ile	Pro	Leu	Gly	Leu	Leu	Phe
1				5					10					15
Leu	Val	Cys	Gly	Ser	Gln	Gly	Tyr	Leu	Leu	Pro	Asn	Val	Thr	Leu
				20					25					30
Leu	Glu	Glu	Leu	Leu	Ser	Lys	Tyr	Gln	His	Asn	Glu	Ser	His	Ser
				35					40					45
Arg	Val	Arg	Arg	Ala	Ile	Pro	Arg	Glu	Asp	Lys	Glu	Glu	Ile	Leu
				50					55					60
Met	Leu	His	Asn	Lys	Leu	Arg	Gly	Gln	Val	Gln	Pro	Gln	Ala	Ser
				65					70					75
Asn	Met	Glu	Tyr	Met	Val	Ser	Ala	Gly	Ser	Gly	Arg	Arg	Gly	Trp
				80					85					90
His	Arg	Gly	Trp	Gly	Leu	Gly	His	Gln	Pro	Ala	Leu	Phe	Pro	Ser
				95					100					105
Gln	Leu	Cys	Ser	Pro	Ala	Ser	Ala	Cys	Asp	Gly	Trp	Leu	Arg	Val

	110		115		120
Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val					
	125		130		135
Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln					
	140		145		150
Trp His Asn Arg His Ala Leu Lys Pro					
	155				

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagaggg caccgggact tcagtgtctc ctccatccca ggagcgcagt 50  
 ggccactatg gggctctgggc tgccccttgt cctcctcttg accctccttg 100  
 gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150  
 gagtcttttc tgacaaattc ctcctatgag tccagcttcc tggaattgct 200  
 tgaaaagctc tgcctcctcc tccatctccc ttcagggacc agcgtcacc 250  
 tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
 ttgaagcctg tgtccttctt ggcccgggct tttgggccgg ggatgcagga 350  
 ggcaggcccc gaccctgtct ttcagcaggc cccaccctc ctgagtggca 400  
 ataaataaaa ttcggtatgc tg 422

<210> 363  
 <211> 78  
 <212> PRT  
 <213> Homo sapiens

<400> 363  
 Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly  
 1 5 10 15  
 Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu  
 20 25 30  
 Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu  
 35 40 45  
 Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly  
 50 55 60  
 Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val  
 65 70 75  
 Cys Asn Thr

<210> 364  
 <211> 826  
 <212> DNA  
 <213> Homo sapiens

<400> 364  
 aattgtatct gtgtaatggt aaaacaaacg aaataaaata gaaggaaaaa 50  
 ctttctgagt ttcaaaaaca acagactagt actctaaaga actcttttaa 100  
 acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
 ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
 attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
 cctcttacgc atatgttaca aattatctgg agttcctaata caatgcagag 300  
 ttccccctcc ctccgattgt tctaaataat tgaaagatgt ctgctgtgga 350  
 aaaaggcatg tattttaaatac tgtatgattc tcaaccatct ttagttggga 400  
 aaggtccttg aaagccaatg gaaatacttt ttttttttct tggcactaat 450  
 caagtgagtg ttaccttttc acttagtagg atgtgttggt acgctagtaa 500  
 aatagaaacc tgtgttttatt ctcaggtatt ttagaaacaa cagccatcat 550  
 tttattttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
 gctatcaaat attacttcat tcaatataaa taacaatagt agaagttggt 650  
 tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
 ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
 gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
 accagaataa aagttcatat ctaccc 826

<210> 365  
 <211> 67  
 <212> PRT  
 <213> Homo sapiens

<400> 365  
 Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
     1                    5                    10                    15  
 Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
                     20                    25                    30  
 Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
                     35                    40                    45  
 Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
                     50                    55                    60

Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366

<211> 2475

<212> DNA

<213> Homo sapiens

<400> 366

gaggatttgc cacagcagcg gatagagcag gagagcacca ccggagccct 50  
tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttggtg 100  
ttttgcagga tgatggtggc ccttcgagga gcttctgcat tgctggttct 150  
gttccttgca gcttttctgc ccccgccgca gtgtaccag gaccagcca 200  
tggtgcatta catctaccag cgctttcgag tcttgagca agggctggaa 250  
aatgtaccc aagcaacgag ggcatacatt caagaattcc aagagttctc 300  
aaaaaatata tctgtcatgc tgggaagatg tcagacctac acaagtgagt 350  
acaagagtgc agtgggtaac ttggcactga gagttgaacg tgccaacgg 400  
gagattgact acatacaata ccttcgagag gctgacgagt gcatcgtatc 450  
agaggacaag aactggcag aatgttgct ccaagaagct gaagaagaga 500  
aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550  
ataaagtctt tgaaaatagt gaagaagatg atggacacac atggctcttg 600  
gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650  
ccagaaacaa cactgtttgg gaatttgcaa acatacgggc attcatggag 700  
gataacacca agccagctcc ccggaagcaa atcctaacac tttcctggca 750  
gggaacaggc caagtgatct acaaagggtt tctatttttt cataaccaag 800  
caacttctaa tgagataatc aaatataacc tgcagaagag gactgtggaa 850  
gatcgaatgc tgctcccagg aggggtaggc cgagcattgg ttaccagca 900  
ctccccctca acttacattg acctggctgt ggatgagcat gggctctggg 950  
ccatccactc tgggccaggc acccatagcc atttggttct cacaaagatt 1000  
gagccgggca cactgggagt ggagcattca tgggataccc catgcagaag 1050  
ccaggatgct gaagcctcat tcctcttggtg tggggttctc tatgtggtct 1100  
acagtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150  
ctgggcacta tcagtgagga ggacttgccc aacttggttct tccccaagag 1200  
accaagaagt cactccatga tccattacaa cccagagat aagcagctct 1250



atgcctggaa tgaaggaaac cagatcattt acaaactcca gacaaagaga 1300  
aagctgcctc tgaagtaatg cattacagct gtgagaaaga gcactgtggc 1350  
tttggcagct gttctacagg acagtgaggc tatagcccct tcacaatata 1400  
gtatccctct aatcacacac aggaagagtg tgtagaagtg gaaatacgta 1450  
tgctcctttt cccaaatgtc actgccttag gtatcttcca agagcttaga 1500  
tgagagcata tcatcaggaa agtttcaaca atgtccatta ctccccaaa 1550  
cctcctggct ctcaaggatg accacattct gatacagcct acttcaagcc 1600  
ttttgtttta ctgctcccca gcatttactg taactctgcc atcttccctc 1650  
ccacaattag agttgtatgc cagcccctaa tattcaccac tggcttttct 1700  
ctccccggc ctttgctgaa gctcttccct ctttttcaaa tgtctattga 1750  
tattctccca ttttactgc ccaactaaaa tactattaat atttctttct 1800  
tttcttttct tttttttgag acaaggctct actatgttgc ccaggctggg 1850  
ctcaaactcc agagctcaag agatcctcct gcctcagcct cctaagtacc 1900  
tgggattaca ggcatgtgcc accacacctg gcttaaaata ctatttctta 1950  
ttgaggttta acctctattt cccctagccc tgccttcca ctaagcttgg 2000  
tagatgtaat aataaagtga aaatattaac atttgaatat cgctttccag 2050  
gtgtggagtg tttgcacatc attgaattct cgtttcacct ttgtgaaaca 2100  
tgcacaagtc tttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
tacaaagtga aagatacagc tagaaaatac tacaaatccc atagtttttc 2200  
cattgcccac ggaagcatca aatacgtatg tttgttcacc tactcttata 2250  
gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tccctttagc 2300  
cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
tcctccagaa aaccagtcta agggtgagga cccaactct agcctcctct 2400  
tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaaagt 2450  
gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367

<211> 402

<212> PRT

<213> Homo sapiens

<400> 367

Met	Met	Val	Ala	Leu	Arg	Gly	Ala	Ser	Ala	Leu	Leu	Val	Leu	Phe
1				5				10					15	

Leu	Ala	Ala	Phe	Leu	Pro	Pro	Pro	Gln	Cys	Thr	Gln	Asp	Pro	Ala	
				20					25					30	
Met	Val	His	Tyr	Ile	Tyr	Gln	Arg	Phe	Arg	Val	Leu	Glu	Gln	Gly	
				35					40					45	
Leu	Glu	Lys	Cys	Thr	Gln	Ala	Thr	Arg	Ala	Tyr	Ile	Gln	Glu	Phe	
				50					55					60	
Gln	Glu	Phe	Ser	Lys	Asn	Ile	Ser	Val	Met	Leu	Gly	Arg	Cys	Gln	
				65					70					75	
Thr	Tyr	Thr	Ser	Glu	Tyr	Lys	Ser	Ala	Val	Gly	Asn	Leu	Ala	Leu	
				80					85					90	
Arg	Val	Glu	Arg	Ala	Gln	Arg	Glu	Ile	Asp	Tyr	Ile	Gln	Tyr	Leu	
				95					100					105	
Arg	Glu	Ala	Asp	Glu	Cys	Ile	Val	Ser	Glu	Asp	Lys	Thr	Leu	Ala	
				110					115					120	
Glu	Met	Leu	Leu	Gln	Glu	Ala	Glu	Glu	Glu	Lys	Lys	Ile	Arg	Thr	
				125					130					135	
Leu	Leu	Asn	Ala	Ser	Cys	Asp	Asn	Met	Leu	Met	Gly	Ile	Lys	Ser	
				140					145					150	
Leu	Lys	Ile	Val	Lys	Lys	Met	Met	Asp	Thr	His	Gly	Ser	Trp	Met	
				155					160					165	
Lys	Asp	Ala	Val	Tyr	Asn	Ser	Pro	Lys	Val	Tyr	Leu	Leu	Ile	Gly	
				170					175					180	
Ser	Arg	Asn	Asn	Thr	Val	Trp	Glu	Phe	Ala	Asn	Ile	Arg	Ala	Phe	
				185					190					195	
Met	Glu	Asp	Asn	Thr	Lys	Pro	Ala	Pro	Arg	Lys	Gln	Ile	Leu	Thr	
				200					205					210	
Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu	
				215					220					225	
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn	
				230					235					240	
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly	
				245					250					255	
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile	
				260					265					270	
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly	
				275					280					285	
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly	
				290					295					300	
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln	

305	310	315
Asp Ala Glu Ala Ser Phe Leu Leu Cys Gly Val Leu Tyr Val Val		
320	325	330
Tyr Ser Thr Gly Gly Gln Gly Pro His Arg Ile Thr Cys Ile Tyr		
335	340	345
Asp Pro Leu Gly Thr Ile Ser Glu Glu Asp Leu Pro Asn Leu Phe		
350	355	360
Phe Pro Lys Arg Pro Arg Ser His Ser Met Ile His Tyr Asn Pro		
365	370	375
Arg Asp Lys Gln Leu Tyr Ala Trp Asn Glu Gly Asn Gln Ile Ile		
380	385	390
Tyr Lys Leu Gln Thr Lys Arg Lys Leu Pro Leu Lys		
395	400	

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgcccg gtactcacta gctgaggtgg cagtgggtcc accaacaatgg 50  
 agctctcgca gatgtcggag ctcatggggc tgtcgggtgtt gcttgggctg 100  
 ctggccctga tggcgacggc ggcggtagcg cgggggtggc tgcgcgcggg 150  
 ggaggagagg agcggccggc ccgcctgccaaaagcaaag ggatttccac 200  
 ctgacaaaatc ttcgggatcc aagaagcaga aacaatatca gcggattcgg 250  
 aaggagaagc ctcaacaaca caacttcacc caccgcctcc tggctgcagc 300  
 tctgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgatc gcaccatccg catctggagc 400  
 accaaggact tcctgcagcg agagcaccgc agcatgagag ccaacgtgga 450  
 gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
 tcgtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
 cgggaggatg ggggctacac cttcacagcc accccagagg acttccttaa 600  
 aaagcacaag gcgcctgtca tcgacattgg cattgctaac acagggaagt 650  
 ttatcatgac tgctccagt gacaccactg tcctcatctg gagcctgaag 700  
 ggtcaagtgc tgtctaccat caacaccaac cagatgaaca acacacacgc 750  
 tgctgtatct ccctgtggca gattttagc ctcgtgtggc ttcacccag 800

**0007196** **080301**



Trp	Glu	Val	Cys	Phe 260	Gly	Lys	Lys	Gly	Glu 265	Phe	Gln	Glu	Val	Val 270
Arg	Ala	Phe	Glu	Leu 275	Lys	Gly	His	Ser	Ala 280	Ala	Val	His	Ser	Phe 285
Ala	Phe	Ser	Asn	Asp 290	Ser	Arg	Arg	Met	Ala 295	Ser	Val	Ser	Lys	Asp 300
Gly	Thr	Trp	Lys	Leu 305	Trp	Asp	Thr	Asp	Val 310	Glu	Tyr	Lys	Lys	Lys 315
Gln	Asp	Pro	Tyr	Leu 320	Leu	Lys	Thr	Gly	Arg 325	Phe	Glu	Glu	Ala	Ala 330
Gly	Ala	Ala	Pro	Cys 335	Arg	Leu	Ala	Leu	Ser 340	Pro	Asn	Ala	Gln	Val 345
Leu	Ala	Leu	Ala	Ser 350	Gly	Ser	Ser	Ile	His 355	Leu	Tyr	Asn	Thr	Arg 360
Arg	Gly	Glu	Lys	Glu 365	Glu	Cys	Phe	Glu	Arg 370	Val	His	Gly	Glu	Cys 375
Ile	Ala	Asn	Leu	Ser 380	Phe	Asp	Ile	Thr	Gly 385	Arg	Phe	Leu	Ala	Ser 390
Cys	Gly	Asp	Arg	Ala 395	Val	Arg	Leu	Phe	His 400	Asn	Thr	Pro	Gly	His 405
Arg	Ala	Met	Val	Glu 410	Glu	Met	Gln	Gly	His 415	Leu	Lys	Arg	Ala	Ser 420
Asn	Glu	Ser	Thr	Arg 425	Gln	Arg	Leu	Gln	Gln 430	Gln	Leu	Thr	Gln	Ala 435
Gln	Glu	Thr	Leu	Lys 440	Ser	Leu	Gly	Ala	Leu 445	Lys	Lys			

<210> 370

<212> DNA

<213> Homo sapiens

tggcctcccc agcttgccag gcacaaggct gagcgggagg aagcgagagg 50

ccacgcgagt ctcaatcatg ctctctctag taactgtgtc tgactgtgct 150

ctgtgccatc agcctgtggc ttcgagggct gcggatgtgc accccgctgg 250

ggcggaagg cgaggagtgc caccgga gccacaaggt ccccttcttc 300

aggaaacgca agcaccacac ctgtccttgc ttgcccaccc tgctgtgctc 350



Gly	Leu	Arg	Met	Cys	Thr	Pro	Leu	Gly	Arg	Glu	Gly	Glu	Glu	Cys
				50					55					60
His	Pro	Gly	Ser	His	Lys	Val	Pro	Phe	Phe	Arg	Lys	Arg	Lys	His
				65					70					75
His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro
				80					85					90
Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe
				95					100					105

<210> 372

<211> 1281

<212> DNA

<213> Homo sapiens

<400> 372

```

agcgcccggg cgctcggggcg gtaaaaggcc ggcagaaggg aggcacttga 50
gaaatgtctt tcctccagga cccaagtttc ttcaccatgg ggatgtggtc 100
cattggtgca ggagccctgg gggctgctgc cttggcattg ctgcttgcca 150
acacagacgt gtttctgtcc aagccccaga aagcggccct ggagtacctg 200
gaggatatag acctgaaaac actggagaag gaaccaagga ctttcaaagc 250
aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300
caggctgttt cctctgtcga gaggaagctg cggatctgtc ctccctgaaa 350
agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400
catcaggact gaagtgaagg atttccagcc ttatttcaaa ggagaaatct 450
tcctggatga aaagaaaaag ttctatggtc cacaaaggcg gaagatgatg 500
tttatgggat ttatccgtct gggagtgtgg tacaacttct tccgagcctg 550
gaacggaggc ttctctggaa acctggaagg agaaggcttc atccttgggg 600
gagttttcgt ggtgggatca ggaaagcagg gcattcttct tgagcaccga 650
gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaagctgc 700
taagatgatc aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750
aaactgcca gctcagggat aaccaggac attcacctgt gttcatggga 800
tgtattgttt cactcgtgt ccctaaggag tgagaaacc atttatactc 850
tactctcagt atggattatt aatgtatttt aatattctgt ttagggccac 900
taaggcaaaa tagcccaaaa acaagactga caaaaatctg aaaaactaat 950
gaggattatt aagctaaaac ctgggaaata ggaggcttaa aattgactgc 1000

```



caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggaggcc 1050  
aaggtgagca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggt 1150  
ggcaggcacc tgtagtccca gctacccggg aggctgaggc aggagaatca 1200  
cttgaacctg ggaggtggag gttgcggtga gctgagatca caccactgta 1250  
ttccagcctg ggtgactgag actctaacta a 1281

<210> 373

<211> 229

<212> PRT

<213> Homo sapiens

<400> 373

Met	Ser	Phe	Leu	Gln	Asp	Pro	Ser	Phe	Phe	Thr	Met	Gly	Met	Trp	1	5	10	15
Ser	Ile	Gly	Ala	Gly	Ala	Leu	Gly	Ala	Ala	Ala	Leu	Ala	Leu	Leu	20	25	30	
Leu	Ala	Asn	Thr	Asp	Val	Phe	Leu	Ser	Lys	Pro	Gln	Lys	Ala	Ala	35	40	45	
Leu	Glu	Tyr	Leu	Glu	Asp	Ile	Asp	Leu	Lys	Thr	Leu	Glu	Lys	Glu	50	55	60	
Pro	Arg	Thr	Phe	Lys	Ala	Lys	Glu	Leu	Trp	Glu	Lys	Asn	Gly	Ala	65	70	75	
Val	Ile	Met	Ala	Val	Arg	Arg	Pro	Gly	Cys	Phe	Leu	Cys	Arg	Glu	80	85	90	
Glu	Ala	Ala	Asp	Leu	Ser	Ser	Leu	Lys	Ser	Met	Leu	Asp	Gln	Leu	95	100	105	
Gly	Val	Pro	Leu	Tyr	Ala	Val	Val	Lys	Glu	His	Ile	Arg	Thr	Glu	110	115	120	
Val	Lys	Asp	Phe	Gln	Pro	Tyr	Phe	Lys	Gly	Glu	Ile	Phe	Leu	Asp	125	130	135	
Glu	Lys	Lys	Lys	Phe	Tyr	Gly	Pro	Gln	Arg	Arg	Lys	Met	Met	Phe	140	145	150	
Met	Gly	Phe	Ile	Arg	Leu	Gly	Val	Trp	Tyr	Asn	Phe	Phe	Arg	Ala	155	160	165	
Trp	Asn	Gly	Gly	Phe	Ser	Gly	Asn	Leu	Glu	Gly	Glu	Gly	Phe	Ile	170	175	180	
Leu	Gly	Gly	Val	Phe	Val	Val	Gly	Ser	Gly	Lys	Gln	Gly	Ile	Leu	185	190	195	
Leu	Glu	His	Arg	Glu	Lys	Glu	Phe	Gly	Asp	Lys	Val	Asn	Leu	Leu				

[illegible]

```
<210> 374
<211> 744
<212> DNA
<213> Homo sapiens
```

```
<210> 375
<211> 123
<212> PRT
<213> Homo sapiens
```

358

Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60

Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly  
65 70 75

Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90

Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105

Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120

Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
aatatatcat ctatttatca ttaatcaata atgtattctt ttattccaat 50  
aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttggatatgt gaagctattt ggagatccaa 150  
ttcaggaagc aacacattgg agaatggcta ctttctatca agaaataaag 200  
agaaccacag tcaaccaca caatcatctt tagaagacag tgtgactcct 250  
accaaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300  
tgactcaaga gggttaattc ttggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa tttaaggcaa atacacatat 400  
tagtattacc ttagtgtaat gtatccctgt catatataca ataaggtgaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctctcccc 600  
ttacagaatt gacattttta atgcgataca gttagaatag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700  
aaggaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

**09-1386**

<210> 378

<212> DNA

<400> 378

360

ttagcaattc tgaggatttt aaaaacacca taccatggt gacaccacct 900  
 cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950  
 agttcttgat aagtctggaa gcatgggggg taaggaccgc ctaaatacgaa 1000  
 tgaatcaagc agcaaaacat ttcctgctgc agactgttga aaatggatcc 1050  
 tgggtgggga tggttcactt tgatagtact gccactattg taaataagct 1100  
 aatccaaata aaaagcagt atgaaagaaa cacactcatg gcaggattac 1150  
 ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
 tttcaggtga ttggagagct acattcccaa ctcgatggat ccgaagtact 1250  
 gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300  
 tgaaacaaag tggggccatt gttcatttta ttgctttggg aagagctgct 1350  
 gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400  
 tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450  
 ttacatcagg aaatactgat ctctcccaga agtcccttca gctcgaaagt 1500  
 aagggattaa cactgaatag taatgcctgg atgaacgaca ctgtcataat 1550  
 tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaacagtc 1600  
 tgcctcccag tatttctctc tgggatccca gtggaacaat aatggaaaat 1650  
 ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700  
 tgcaaagggt ggcacttggg catacaatct tcaagccaaa gcgaaccag 1750  
 aaacattaac tattacagta acttctcgag cagcaaattc ttctgtgcct 1800  
 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850  
 cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900  
 gagccaatgt gactgctttc attgaatcac agaattggaca tacagaagtt 1950  
 ttggaacttt tggataatgg tgcaggcgt gattctttca agaattgatg 2000  
 agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050  
 taaaagtctg ggctcatgga ggagcaaaca ctgccaggct aaaattacgg 2100  
 cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150  
 aattgaagca aacccgccaa gacctgaaat tgatgaggat actcagacca 2200  
 ccttgaggga tttcagccga acagcatccg gaggtgcatt tgtggtatca 2250  
 caagtcccaa gccttccctt gcctgaccaa taccaccaa gtcaaatac 2300

TC330-266450

agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350  
caccaggaga taattttgat gttggaaaag ttcaacgtta tatcataaga 2400  
ataagtgcaa gtattcttga tctaagagac agttttgatg atgctcttca 2450  
agtaaatact actgatctgt caccaaagga ggccaactcc aaggaaaagct 2500  
ttgcatttaa accagaaaat atctcagaag aaaatgcaac ccacatattt 2550  
attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600  
cattgcacaa gtaactttgt ttatccctca agcaaactct gatgacattg 2650  
atcctacacc tactcctact cctactccta ctctgataa aagtcataat 2700  
tctggagtta atattttctac gctgggtattg tctgtgattg ggtctgttgt 2750  
aattgttaac tttattttta gtaccaccat ttgaacctta acgaagaaaa 2800  
aaatcttcaa gtagacctag aagagagttt taaaaaacia aacaatgtaa 2850  
gtaaaggata tttctgaatc ttaaaattca tcccatgtgt gatcataaac 2900  
tcataaaaat aattttaaga tgtcggaaaa ggatactttg attaaataaa 2950  
aacactcatg gatatgtaa aactgtcaag attaaaattt aatagtttca 3000  
tttatttggt attttatttg taagaaatag tgatgaacaa agatcctttt 3050  
tcatactgat acctgggtgt atattatttg atgcaacagt tttctgaaat 3100  
gatatttcaa attgcatcaa gaaattaaaa tcacttatct gagtagtcaa 3150  
aatacaagta aaggagagca aataaacaac atttggaata aaaaaaaaaa 3200  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3250  
aaaaaaaaaa aaaaaa 3265

<210> 379

<211> 919

<212> PRT

<213> Homo sapiens

<400> 379

Met	Gly	Leu	Phe	Arg	Gly	Phe	Val	Phe	Leu	Leu	Val	Leu	Cys	Leu
1				5					10				15	
Leu	His	Gln	Ser	Asn	Thr	Ser	Phe	Ile	Lys	Leu	Asn	Asn	Asn	Gly
				20					25					30
Phe	Glu	Asp	Ile	Val	Ile	Val	Ile	Asp	Pro	Ser	Val	Pro	Glu	Asp
				35					40					45
Glu	Lys	Ile	Ile	Glu	Gln	Ile	Glu	Asp	Met	Val	Thr	Thr	Ala	Ser
				50					55					60

Thr	Tyr	Leu	Phe	Glu	Ala	Thr	Glu	Lys	Arg	Phe	Phe	Phe	Lys	Asn	
				65					70					75	
Val	Ser	Ile	Leu	Ile	Pro	Glu	Asn	Trp	Lys	Glu	Asn	Pro	Gln	Tyr	
				80					85					90	
Lys	Arg	Pro	Lys	His	Glu	Asn	His	Lys	His	Ala	Asp	Val	Ile	Val	
				95					100					105	
Ala	Pro	Pro	Thr	Leu	Pro	Gly	Arg	Asp	Glu	Pro	Tyr	Thr	Lys	Gln	
				110					115					120	
Phe	Thr	Glu	Cys	Gly	Glu	Lys	Gly	Glu	Tyr	Ile	His	Phe	Thr	Pro	
				125					130					135	
Asp	Leu	Leu	Leu	Gly	Lys	Lys	Gln	Asn	Glu	Tyr	Gly	Pro	Pro	Gly	
				140					145					150	
Lys	Leu	Phe	Val	His	Glu	Trp	Ala	His	Leu	Arg	Trp	Gly	Val	Phe	
				155					160					165	
Asp	Glu	Tyr	Asn	Glu	Asp	Gln	Pro	Phe	Tyr	Arg	Ala	Lys	Ser	Lys	
				170					175					180	
Lys	Ile	Glu	Ala	Thr	Arg	Cys	Ser	Ala	Gly	Ile	Ser	Gly	Arg	Asn	
				185					190					195	
Arg	Val	Tyr	Lys	Cys	Gln	Gly	Gly	Ser	Cys	Leu	Ser	Arg	Ala	Cys	
				200					205					210	
Arg	Ile	Asp	Ser	Thr	Thr	Lys	Leu	Tyr	Gly	Lys	Asp	Cys	Gln	Phe	
				215					220					225	
Phe	Pro	Asp	Lys	Val	Gln	Thr	Glu	Lys	Ala	Ser	Ile	Met	Phe	Met	
				230					235					240	
Gln	Ser	Ile	Asp	Ser	Val	Val	Glu	Phe	Cys	Asn	Glu	Lys	Thr	His	
				245					250					255	
Asn	Gln	Glu	Ala	Pro	Ser	Leu	Gln	Asn	Ile	Lys	Cys	Asn	Phe	Arg	
				260					265					270	
Ser	Thr	Trp	Glu	Val	Ile	Ser	Asn	Ser	Glu	Asp	Phe	Lys	Asn	Thr	
				275					280					285	
Ile	Pro	Met	Val	Thr	Pro	Pro	Pro	Pro	Pro	Val	Phe	Ser	Leu	Leu	
				290					295					300	
Lys	Ile	Ser	Gln	Arg	Ile	Val	Cys	Leu	Val	Leu	Asp	Lys	Ser	Gly	
				305					310					315	
Ser	Met	Gly	Gly	Lys	Asp	Arg	Leu	Asn	Arg	Met	Asn	Gln	Ala	Ala	
				320					325					330	
Lys	His	Phe	Leu	Leu	Gln	Thr	Val	Glu	Asn	Gly	Ser	Trp	Val	Gly	
				335					340					345	
Met	Val	His	Phe	Asp	Ser	Thr	Ala	Thr	Ile	Val	Asn	Lys	Leu	Ile	

	350		355		360
Gln Ile Lys Ser	Ser Asp Glu Arg Asn Thr	Leu Met Ala Gly	Leu		
	365		370		375
Pro Thr Tyr Pro	Leu Gly Gly Thr Ser	Ile Cys Ser Gly	Ile Lys		
	380		385		390
Tyr Ala Phe Gln	Val Ile Gly Glu Leu His	Ser Gln Leu Asp	Gly		
	395		400		405
Ser Glu Val Leu	Leu Leu Thr Asp Gly	Glu Asp Asn Thr	Ala Ser		
	410		415		420
Ser Cys Ile Asp	Glu Val Lys Gln Ser	Gly Ala Ile Val	His Phe		
	425		430		435
Ile Ala Leu Gly	Arg Ala Ala Asp Glu	Ala Val Ile Glu	Met Ser		
	440		445		450
Lys Ile Thr Gly	Gly Ser His Phe Tyr	Val Ser Asp Glu	Ala Gln		
	455		460		465
Asn Asn Gly Leu	Ile Asp Ala Phe Gly	Ala Leu Thr Ser	Gly Asn		
	470		475		480
Thr Asp Leu Ser	Gln Lys Ser Leu Gln	Leu Glu Ser Lys	Gly Leu		
	485		490		495
Thr Leu Asn Ser	Asn Ala Trp Met Asn	Asp Thr Val Ile	Ile Asp		
	500		505		510
Ser Thr Val Gly	Lys Asp Thr Phe Phe	Leu Ile Thr Trp	Asn Ser		
	515		520		525
Leu Pro Pro Ser	Ile Ser Leu Trp Asp	Pro Ser Gly Thr	Ile Met		
	530		535		540
Glu Asn Phe Thr	Val Asp Ala Thr Ser	Lys Met Ala Tyr	Leu Ser		
	545		550		555
Ile Pro Gly Thr	Ala Lys Val Gly Thr	Trp Ala Tyr Asn	Leu Gln		
	560		565		570
Ala Lys Ala Asn	Pro Glu Thr Leu Thr	Ile Thr Val Thr	Ser Arg		
	575		580		585
Ala Ala Asn Ser	Ser Val Pro Pro Ile	Thr Val Asn Ala	Lys Met		
	590		595		600
Asn Lys Asp Val	Asn Ser Phe Pro Ser	Pro Met Ile Val	Tyr Ala		
	605		610		615
Glu Ile Leu Gln	Gly Tyr Val Pro Val	Leu Gly Ala Asn	Val Thr		
	620		625		630
Ala Phe Ile Glu	Ser Gln Asn Gly His	Thr Glu Val Leu	Glu Leu		
	635		640		645



Leu	Asp	Asn	Gly	Ala	Gly	Ala	Asp	Ser	Phe	Lys	Asn	Asp	Gly	Val	650	655	660
Tyr	Ser	Arg	Tyr	Phe	Thr	Ala	Tyr	Thr	Glu	Asn	Gly	Arg	Tyr	Ser	665	670	675
Leu	Lys	Val	Arg	Ala	His	Gly	Gly	Ala	Asn	Thr	Ala	Arg	Leu	Lys	680	685	690
Leu	Arg	Pro	Pro	Leu	Asn	Arg	Ala	Ala	Tyr	Ile	Pro	Gly	Trp	Val	695	700	705
Val	Asn	Gly	Glu	Ile	Glu	Ala	Asn	Pro	Pro	Arg	Pro	Glu	Ile	Asp	710	715	720
Glu	Asp	Thr	Gln	Thr	Thr	Leu	Glu	Asp	Phe	Ser	Arg	Thr	Ala	Ser	725	730	735
Gly	Gly	Ala	Phe	Val	Val	Ser	Gln	Val	Pro	Ser	Leu	Pro	Leu	Pro	740	745	750
Asp	Gln	Tyr	Pro	Pro	Ser	Gln	Ile	Thr	Asp	Leu	Asp	Ala	Thr	Val	755	760	765
His	Glu	Asp	Lys	Ile	Ile	Leu	Thr	Trp	Thr	Ala	Pro	Gly	Asp	Asn	770	775	780
Phe	Asp	Val	Gly	Lys	Val	Gln	Arg	Tyr	Ile	Ile	Arg	Ile	Ser	Ala	785	790	795
Ser	Ile	Leu	Asp	Leu	Arg	Asp	Ser	Phe	Asp	Asp	Ala	Leu	Gln	Val	800	805	810
Asn	Thr	Thr	Asp	Leu	Ser	Pro	Lys	Glu	Ala	Asn	Ser	Lys	Glu	Ser	815	820	825
Phe	Ala	Phe	Lys	Pro	Glu	Asn	Ile	Ser	Glu	Glu	Asn	Ala	Thr	His	830	835	840
Ile	Phe	Ile	Ala	Ile	Lys	Ser	Ile	Asp	Lys	Ser	Asn	Leu	Thr	Ser	845	850	855
Lys	Val	Ser	Asn	Ile	Ala	Gln	Val	Thr	Leu	Phe	Ile	Pro	Gln	Ala	860	865	870
Asn	Pro	Asp	Asp	Ile	Asp	Pro	Thr	Pro	Thr	Pro	Thr	Pro	Thr	Pro	875	880	885
Thr	Pro	Asp	Lys	Ser	His	Asn	Ser	Gly	Val	Asn	Ile	Ser	Thr	Leu	890	895	900
Val	Leu	Ser	Val	Ile	Gly	Ser	Val	Val	Ile	Val	Asn	Phe	Ile	Leu	905	910	915
Ser	Thr	Thr	Ile														

&lt;210&gt; 380

**09-169-08601**

366

aaacacgaat tcaaacggct catcttattt cgaccattca gccccatcat 1400  
 gaaagtgaaa aatgaaaagc tcaacatggc caacacgctt atcaatgtta 1450  
 tcgtgcctct agcaaaaagg gtggacaagt tccggcagtt catgcagaat 1500  
 ttcagggaga tgtgcattga gcaggatggg agagtccatc tctactgttgt 1550  
 ttactttggg aaagaagaaa taaatgaagt caaaggaata cttgaaaaca 1600  
 cttccaaagc tgccaacttc aggaacttta ccttcatcca gctgaatgga 1650  
 gaattttctc ggggaaaagg acttgatggt ggagcccgt tctggaagg 1700  
 aagcaacgtc cttctctttt tctgtgatgt ggacatctac ttcacatctg 1750  
 aattcctcaa tacgtgtagg ctgaatacac agccaggga gaaggtattt 1800  
 tatccagttc ttttcagtca gtacaatcct ggcataatat acggccacca 1850  
 tgatgcagtc cctcccttgg aacagcagct ggtcataaag aaggaaactg 1900  
 gatthttggag agactttgga tttgggatga cgtgtcagta tcggtcagac 1950  
 ttcatacaata taggtgggtt tgatctggac atcaaaggct ggggcggaga 2000  
 ggatgtgcac ctttatcgca agtatctcca cagcaacctc atagtgggtac 2050  
 ggacgcctgt gcgaggactc ttccacctct ggcatagaga gcgctgcatg 2100  
 gacgagctga cccccgagca gtacaagatg tgcatacagt ccaaggccat 2150  
 gaacgaggca tcccacggcc agctgggcat gctggtgttc aggacagaga 2200  
 tagaggctca ccttcgcaaa cagaaacaga agacaagtag caaaaaaaca 2250  
 tgaactccca gagaaggatt gtgggagaca ctttttcttt ctttttgcaa 2300  
 ttactgaaag tggctgcaac agagaaaaga cttccataaa ggacgacaaa 2350  
 agaattggac tgatgggtca gagatgagaa agcctccgat ttctctctgt 2400  
 tgggcttttt acaacagaaa tcaaaatctc cgctttgcct gcaaaaagtaa 2450  
 cccagttgca ccctgtgaag tgtctgacaa aggacagaatg cttgtgagat 2500  
 tataagccta atggtgtgga ggttttgatg gtgtttacaa tacactgaga 2550  
 cctgttggtt tgtgtgctca ttgaaatatt catgatttaa gagcagtttt 2600  
 gtaaaaaatt cattagcatg aaaggcaagc atatttctcc tcatatgaat 2650  
 gagcctatca gcagggtctc agtttctagg aatgctaaaa tatcagaagg 2700  
 caggagagga gataggctta ttatgatact agtgagtaca ttaagtaaaa 2750  
 taaaatggac cagaaaagaa aagaaccat aaatatcgtg tcatattttc 2800

# THE UNIVERSITY OF CHICAGO

<211> 532

<212> PRT

<213> Homo sapiens

<400> 381

Met Met Met Val Arg Arg Gly Leu Leu Ala Trp Ile Ser Arg Val  
1 5 10 15

Val Val Leu Leu Val Leu Leu Cys Cys Ala Ile Ser Val Leu Tyr  
20 25 30

Met Leu Ala Cys Thr Pro Lys Gly Asp Glu Glu Gln Leu Ala Leu  
35 40 45

**SECRET**

				335					340					345
Phe	Trp	Lys	Gly	Ser 350	Asn	Val	Leu	Leu	Phe 355	Phe	Cys	Asp	Val	Asp 360
Ile	Tyr	Phe	Thr	Ser 365	Glu	Phe	Leu	Asn	Thr 370	Cys	Arg	Leu	Asn	Thr 375
Gln	Pro	Gly	Lys	Lys 380	Val	Phe	Tyr	Pro	Val 385	Leu	Phe	Ser	Gln	Tyr 390
Asn	Pro	Gly	Ile	Ile 395	Tyr	Gly	His	His	Asp 400	Ala	Val	Pro	Pro	Leu 405
Glu	Gln	Gln	Leu	Val 410	Ile	Lys	Lys	Glu	Thr 415	Gly	Phe	Trp	Arg	Asp 420
Phe	Gly	Phe	Gly	Met 425	Thr	Cys	Gln	Tyr	Arg 430	Ser	Asp	Phe	Ile	Asn 435
Ile	Gly	Gly	Phe	Asp 440	Leu	Asp	Ile	Lys	Gly 445	Trp	Gly	Gly	Glu	Asp 450
Val	His	Leu	Tyr	Arg 455	Lys	Tyr	Leu	His	Ser 460	Asn	Leu	Ile	Val	Val 465
Arg	Thr	Pro	Val	Arg 470	Gly	Leu	Phe	His	Leu 475	Trp	His	Glu	Lys	Arg 480
Cys	Met	Asp	Glu	Leu 485	Thr	Pro	Glu	Gln	Tyr 490	Lys	Met	Cys	Met	Gln 495
Ser	Lys	Ala	Met	Asn 500	Glu	Ala	Ser	His	Gly 505	Gln	Leu	Gly	Met	Leu 510
Val	Phe	Arg	His	Glu 515	Ile	Glu	Ala	His	Leu 520	Arg	Lys	Gln	Lys	Gln 525
Lys	Thr	Ser	Ser	Lys 530	Lys	Thr								

```
<210> 382
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 382
ctcgggggaaa gggacttgat gttgg 25

<210> 383
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
```

<223> Synthetic oligonucleotide probe

<400> 383

gcgaagggtga gcctctatct cgtgcc 26

<210> 384

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 384

cagcctacac gtattgagg 19

<210> 385

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 385

cagtcagtac aatcctggca taatatacgg ccacatgat gcagtccc 48

<210> 386

<211> 1346

<212> DNA

<213> Homo sapiens

<400> 386

gaaagaatgt tgtggctgct cttttttctg gtgactgccca ttcattgctga 50  
actctgtcaa ccagggtgcag aaaatgcttt taaagtgaga cttagtatca 100  
gaacagctct gggagataaa gcatatgcct gggataccaa tgaagaatac 150  
ctcttcaaag cgatggtagc tttctccatg agaaaagttc ccaacagaga 200  
agcaacagaa atttcccatg tcctactttg caatgtaacc cagagggtat 250  
cattctgggtt tgtgggttaca gacccttcaa aaaatcacac ccttctgct 300  
gttgagggtgc aatcagccat aagaatgaac aagaaccgga tcaacaatgc 350  
cttctttcta aatgacccaaa ctctggaatt tttaaaaatc ccttccacac 400  
ttgcaccacc catggaccca tctgtgcccc tctggattat tatatttggt 450  
gtgatatttt gcatcatcat agttgcaatt gcactactga ttttatcagg 500  
gatctggcaa cgtagaagaa agaacaaaga accatctgaa gtggatgacg 550  
ctgaagataa gtgtgaaaac atgatcacia ttgaaaatgg catcccctct 600  
gatcccctgg acatgaaggg gggcatatta atgatgcctt catgacagag 650

**000000000000**

<211> 212

<213> Homo sapiens

Met Leu Trp Leu Leu Phe Phe Leu Val Thr Ala Ile His Ala Glu  
1 5 10 15

Leu Cys Gln Pro Gly Ala Glu Asn Ala Phe Lys Val Arg Leu Ser  
20 25 30

Ile Arg Thr Ala Leu Gly Asp Lys Ala Tyr Ala Trp Asp Thr Asn  
35 40 45

Glu Glu Tyr Leu Phe Lys Ala Met Val Ala Phe Ser Met Arg Lys  
50 55 60

Val Pro Asn Arg Glu Ala Thr Glu Ile Ser His Val Leu Leu Cys  
65 70 75

Asn Val Thr Gln Arg Val Ser Phe Trp Phe Val Val Thr Asp Pro  
80 85 90

Ser Lys Asn His Thr Leu Pro Ala Val Glu Val Gln Ser Ala Ile  
95 100 105

Arg Met Asn Lys Asn Arg Ile Asn Asn Ala Phe Phe Leu Asn Asp  
110 115 120



Gln	Thr	Leu	Glu	Phe	Leu	Lys	Ile	Pro	Ser	Thr	Leu	Ala	Pro	Pro
				125					130					135
Met	Asp	Pro	Ser	Val	Pro	Ile	Trp	Ile	Ile	Ile	Phe	Gly	Val	Ile
				140					145					150
Phe	Cys	Ile	Ile	Ile	Val	Ala	Ile	Ala	Leu	Leu	Ile	Leu	Ser	Gly
				155					160					165
Ile	Trp	Gln	Arg	Arg	Arg	Lys	Asn	Lys	Glu	Pro	Ser	Glu	Val	Asp
				170					175					180
Asp	Ala	Glu	Asp	Lys	Cys	Glu	Asn	Met	Ile	Thr	Ile	Glu	Asn	Gly
				185					190					195
Ile	Pro	Ser	Asp	Pro	Leu	Asp	Met	Lys	Gly	Gly	Ile	Leu	Met	Met
				200					205					210

Pro Ser

<210> 388  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 388  
 aactcaaaact cctctctctg ggaaaacgcg gtgcttgcct cccccggagt 50  
 ggcccttgga ggggtgttga gccctcggtc tgccccgtcc ggtctctggg 100  
 gccaaaggctg gggtttccctc atgtatggca agagctctac tcgtgcggtg 150  
 cttcttctcc ttggcataca gctcacagct ctttggccta tagcagctgt 200  
 ggaaatttat acctcccggg tgctggaggc tgttaaatggg acagatgctc 250  
 ggtaaaatg cactttctcc agctttgccc ctgtgggtga tgctctaaca 300  
 gtgacctgga attttcgtcc tctagacggg ggacctgagc agtttgtatt 350  
 ctactaccac atagatccct tccaacccat gaggggcg ttttaaggacc 400  
 ggggtgtcttg ggatgggaat cctgagcggc acgatgcctc catccttctc 450  
 tggaaactgc agttcgacga caatgggaca tacacctgcc aggtgaagaa 500  
 cccacctgat gttgatgggg tgatagggga gatccggctc agcgtcgtgc 550  
 aactgtacg cttctctgag atccacttcc tggctctggc cattggctct 600  
 gcctgtgcac tgatgatcat aatagtaatt gtagtggctc tcttccagca 650  
 ttaccggaaa aagcgatggg ccgaaagagc tcataaagtg gtggagataa 700  
 aatcaaaaga agaggaaagg ctcaaccaag agaaaaaggt ctctgtttat 750  
 ttagaagaca cagactaaca atttttagatg gaagctgaga tgatttccaa 800

gaacaagaac cctagtatatt cttgaagtta atggaaactt ttctttggct 850  
 tttccagttg tgacccgttt tccaaccagt tctgcagcat attagattct 900  
 agacaagcaa caccctctg gagccagcac agtgctcctc catatcacca 950  
 gtcatacaca gcctcattat taaggcttta tttaatttca gagtgtaaat 1000  
 tttttcaagt gctcattagg ttttataaac aagaagctac atttttgccc 1050  
 ttaagacact acttacagtg ttatgacttg tatacacata tattgggtatc 1100  
 aaaggggata aaagccaatt tgtctgttac atttcctttc acgtatttct 1150  
 tttagcagca cttctgctac taaagttaat gtgtttactc tctttccttc 1200  
 ccacattctc aattaaaagg tgagctaagc ctctcgggtg tttctgatta 1250  
 acagtaaadc ctaaattcaa actgttaaata gacattttta tttttatgtc 1300  
 tctccttaac tatgagacac atcttgtttt actgaatttc tttcaatatt 1350  
 ccaggtgata gatttttgtc g 1371

<210> 389

<211> 215

<212> PRT

<213> Homo sapiens

<400> 389

Met	Tyr	Gly	Lys	Ser	Ser	Thr	Arg	Ala	Val	Leu	Leu	Leu	Leu	Gly
1				5					10					15
Ile	Gln	Leu	Thr	Ala	Leu	Trp	Pro	Ile	Ala	Ala	Val	Glu	Ile	Tyr
				20					25					30
Thr	Ser	Arg	Val	Leu	Glu	Ala	Val	Asn	Gly	Thr	Asp	Ala	Arg	Leu
				35					40					45
Lys	Cys	Thr	Phe	Ser	Ser	Phe	Ala	Pro	Val	Gly	Asp	Ala	Leu	Thr
				50					55					60
Val	Thr	Trp	Asn	Phe	Arg	Pro	Leu	Asp	Gly	Gly	Pro	Glu	Gln	Phe
				65					70					75
Val	Phe	Tyr	Tyr	His	Ile	Asp	Pro	Phe	Gln	Pro	Met	Ser	Gly	Arg
				80					85					90
Phe	Lys	Asp	Arg	Val	Ser	Trp	Asp	Gly	Asn	Pro	Glu	Arg	Tyr	Asp
				95					100					105
Ala	Ser	Ile	Leu	Leu	Trp	Lys	Leu	Gln	Phe	Asp	Asp	Asn	Gly	Thr
				110					115					120
Tyr	Thr	Cys	Gln	Val	Lys	Asn	Pro	Pro	Asp	Val	Asp	Gly	Val	Ile
				125					130					135
Gly	Glu	Ile	Arg	Leu	Ser	Val	Val	His	Thr	Val	Arg	Phe	Ser	Glu

	140	145	150
Ile His Phe Leu Ala Leu Ala Ile Gly Ser Ala Cys Ala Leu Met			
	155	160	165
Ile Ile Ile Val Ile Val Val Val Leu Phe Gln His Tyr Arg Lys			
	170	175	180
Lys Arg Trp Ala Glu Arg Ala His Lys Val Val Glu Ile Lys Ser			
	185	190	195
Lys Glu Glu Glu Arg Leu Asn Gln Glu Lys Lys Val Ser Val Tyr			
	200	205	210
Leu Glu Asp Thr Asp			
	215		

<210> 390

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 390

ccgaggccat ctagaggcca gagc 24

<210> 391

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 391

acaggcagag ccaatggcca gagc 24

<210> 392

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 392

gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393

<211> 471

<212> DNA

<213> Homo sapiens

<400> 393

gcatttttgt ctgtgctccc tgatcttcag gtcaccacca tgaagttctt 50

agcagtcctg gtactcttgg gagtttccat ctttctgggc tctgcccaga 100  
atccgacaac agctgctcca gctgacacgt atccagctac tggtcctgct 150  
gatgatgaag cccctgatgc tgaaaccact gctgctgcaa ccactgcgac 200  
cactgctgct cctaccactg caaccaccgc tgcttctacc actgctcgta 250  
aagacattcc agttttaccc aaatggggtg gggatctccc gaatggtaga 300  
gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
tattcatgct tcctgtgatt tcatccaact acttaccttg cctacgatat 400  
cccccttata tctaatacgt ttattttctt tcaaataaaa aataactatg 450  
agcaacataa aaaaaaaaaa a 471

<210> 394

<211> 90

<212> PRT

<213> Homo sapiens

<400> 394

Met	Lys	Phe	Leu	Ala	Val	Leu	Val	Leu	Leu	Gly	Val	Ser	Ile	Phe
1				5					10					15

Leu	Val	Ser	Ala	Gln	Asn	Pro	Thr	Thr	Ala	Ala	Pro	Ala	Asp	Thr
				20					25					30

Tyr	Pro	Ala	Thr	Gly	Pro	Ala	Asp	Asp	Glu	Ala	Pro	Asp	Ala	Glu
				35					40					45

Thr	Thr	Ala	Ala	Ala	Thr	Thr	Ala	Thr	Thr	Ala	Ala	Pro	Thr	Thr
				50					55					60

Ala	Thr	Thr	Ala	Ala	Ser	Thr	Thr	Ala	Arg	Lys	Asp	Ile	Pro	Val
				65					70					75

Leu	Pro	Lys	Trp	Val	Gly	Asp	Leu	Pro	Asn	Gly	Arg	Val	Cys	Pro
				80					85					90

<210> 395

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 395

gctccctgat cttcatgtca ccacc 25

<210> 396

<211> 26

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
cagggacaca ctctaccatt cgggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatctttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
ggactctgaa ggtcccaagc agctgctgag gcccccaagg aagtgggtcc 50  
aaccttggac ccctaggggt ctggatttgc tggttaacaa gataacctga 100  
gggcaggacc ccatagggga atgctacctc ctgcccttcc acctgccctg 150  
gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttggtacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agaggggtctt 350  
ggccagtcca gggtaggggg cggaactc cataaagaac cagaggggtct 400  
gggccccggc cacagagtca tctgcccagc tcctctgctg ctggccagtg 450  
ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggctggattt 500  
gcctgcgggc catgggtccct gtctagggca gcaattctca accttcttgc 550  
tctcaggacc ccaaagagct ttcattgtat ctattgattt ttaccacatt 600  
agcaattaaa actgagaaat gggccgggca cggtaggtca cgcctgtaat 650  
cccagcactt tgggaggccg aggcgggtgg atcacctgag atcaggagtt 700  
caagaccagc ctggccaaca tggtgaaacc ttgtctacta aaaatacaaa 750  
aaattagcca ggcacagtgg tgtgcactgg tagtcccagt tactcgggag 800  
gctgaggcag gaaaatcgct tgaaccagc aggcggacgt tgcggtgagc 850  
cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900

tcacaca 907

<210> 399

<211> 120

<212> PRT

<213> Homo sapiens

<400> 399

Met	Leu	Pro	Pro	Ala	Leu	Pro	Pro	Ala	Leu	Val	Phe	Thr	Val	Ala
1				5					10					15

Trp	Ser	Leu	Leu	Ala	Glu	Arg	Val	Ser	Trp	Val	Arg	Asp	Ala	Glu
				20					25					30

Asp	Ala	His	Arg	Leu	Gln	Pro	Phe	Val	Thr	Glu	Arg	Thr	Leu	Gly
				35					40					45

Lys	Val	Gln	Arg	Trp	Ser	Gly	Val	His	Thr	Gln	Thr	Gly	Gly	Arg
				50					55					60

Ala	Gly	Gly	Gly	Gln	Phe	Cys	Cys	Ala	Trp	Leu	Asp	Ser	Lys	Arg
				65					70					75

Val	Leu	Ala	Ser	Pro	Gly	Trp	Gly	Ala	Ala	Asn	Ser	Ile	Lys	Asn
				80					85					90

Gln	Arg	Val	Trp	Ala	Pro	Ala	Thr	Glu	Ser	Ser	Ala	Gln	Leu	Leu
				95					100					105

Cys	Cys	Trp	Pro	Val	Gly	Val	Ala	Arg	Gly	Gly	Ala	Leu	Cys	Gln
				110					115					120

<210> 400

<211> 893

<212> DNA

<213> Homo sapiens

<400> 400

gtcatgccag tgctgtctct gtgctgtctc tgggccctgg caatggtgac 50

ccggcctgcc tcagcggccc ccatgggcgg cccagaactg gcacagcatg 100

aggagctgac cctgtctctc catgggaccc tgcagctggg ccaggccctc 150

aacggtgtgt acaggaccac ggagggacgg ctgacaaagg ccaggaacag 200

cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250

ggggccggga tgcagcccag gaacttcggg caagcctgtt ggagactcag 300

atggaggagg atattctgca gctgcaggca gaggccacag ctgaggtgct 350

gggggaggtg gccaggcac agaaggtgct acgggacagc gtgcagcggc 400

tagaagtcca gctgaggagc gcctggctgg gccctgccta ccgagaattt 450

gaggtcttaa aggctcacgc tgacaagcag agccacatcc tatgggccct 500

**SECRET**

<211> 198

<212> PRT

<213> Homo sapiens

<400> 401

Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
20 25 30

Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
35 40 45

Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
50 55 60

Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
65 70 75

Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
80 85 90

Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
95 100 105

Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
110 115 120

Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
125 130 135

Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
140 145 150

Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
155 160 165

Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
170 175 180

Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala  
 185 190 195

Leu Pro Ala

<210> 402  
 <211> 1915  
 <212> DNA  
 <213> Homo sapiens

<400> 402  
 ggcaacatgg ctcagcaggc ttgccccaga gccatggcaa agaatggact 50  
 tgtaatttgc atcctggtga tcaccttact cctggaccag accaccagcc 100  
 acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
 aagttcacia gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 cagggtgtcaa tgacttttgg ctgggcatca atgacatggc cacggaaggc 450  
 aagtttggtg acgtcaacgg aatcgctatc tccttcctca actgggaccg 500  
 tgcacagcct aacgggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600  
 atatgcgagt tcaccatccc taaataggtc tttctccaat gtgtcctcca 650  
 agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
 aatcataatt tttacttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800  
 tgcccttcct ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcacttgtag aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agcttaggct acctgaaaga ttttcccttg 1000  
 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgctata taatccaaaa acttttcagc ctggtgctca ttctgtccca 1100  
 tgctggcaat aataccttgt cagcccatta cccttatttt gaattgctcc 1150





Ser	Lys	Gly	Gly	Ile	Leu	Val	Ile	Pro	Arg	Asn	Ser	Asp	Glu	Ile
				110					115					120
Asn	Ala	Leu	Gln	Asp	Tyr	Gly	Lys	Arg	Ser	Leu	Pro	Gly	Val	Asn
				125					130					135
Asp	Phe	Trp	Leu	Gly	Ile	Asn	Asp	Met	Val	Thr	Glu	Gly	Lys	Phe
				140					145					150
Val	Asp	Val	Asn	Gly	Ile	Ala	Ile	Ser	Phe	Leu	Asn	Trp	Asp	Arg
				155					160					165
Ala	Gln	Pro	Asn	Gly	Gly	Lys	Arg	Glu	Asn	Cys	Val	Leu	Phe	Ser
				170					175					180
Gln	Ser	Ala	Gln	Gly	Lys	Trp	Ser	Asp	Glu	Ala	Cys	Arg	Ser	Ser
				185					190					195
Lys	Arg	Tyr	Ile	Cys	Glu	Phe	Thr	Ile	Pro	Lys				
				200					205					

<210> 404

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 404

cctggttatc cccaggaact ccgac 25

<210> 405

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 405

ctcttgctgc tgcgacaggc ctc 23

<210> 406

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 406

cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46

<210> 407

<211> 570

<212> DNA

<213> Homo sapiens

<400> 407  
 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50  
 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100  
 ggctctgcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tcggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200  
 ggccggggcc gggaccctgg ccaaccccct cggcaccctc aaccgcgtga 250  
 agctcctgct gagcagcctg ggcacccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350  
 ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgagggctga 450  
 aaaccccgcc gcggggagga ccgtccatcc ccttcccccg gccctctca 500  
 ataaacgtgg ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
 1 5 10 15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
 20 25 30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
 35 40 45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
 50 55 60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
 65 70 75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
 80 85 90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
 95 100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409

tgaaggactt ttccaggacc caaggccaca cactggaagt cttgcagctg 50  
 aagggaggca ctccctggcc tccgcagccg atcacatgaa ggtggtgcca 100  
 agtctcctgc tctccgtcct cctggcacag gtgtggctgg taccggctt 150  
 ggccccagc cctcagtcgc cagagacccc agccccctcag aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggccggtga ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaggaga cttcaaactt cggattcagc ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg tcttctctcc atttggcatg 400  
 tccttggcca tgacaggctt gatgctgggg gccacagggc cgactgaaac 450  
 ccagatcaag agagggtccc acttgcaggc cctgaagccc accaagcccc 500  
 ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600  
 tgatgtcaaa gagactttct tcaatttatc caagaggtat tttgatacag 650  
 agtgcgtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaaatg gttgaccca tttgacctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccata tgtacggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcccta ccaaggaaat gccaccatgc tgggtggtcct catggagaaa 1000  
 atgggtgacc acctcgccct tgaagactac ctgaccacag acttggtgga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagt ttctttccga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150  
 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccagggt tttacgaaga acagtgattg 1250  
 aagttgatga aaggggcact gaggcagtgg caggaatctt gtcagaaatt 1300  
 actgcttatt ccatgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcagggtgg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttcgtgctgt 1450

agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
atggcagggg agagtgttcc ttttgttctt aactagttta ggggtgttctc 1550  
aaataaatac agtagtcccc acttatctga gggggataca ttcaaagacc 1600  
cccagcagat gcctgaaacg gtggacagtg ctgaacctta tatatatttt 1650  
ttcctacaca tacataccta tgataaaagt taatttataa attaggcaca 1700  
gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750  
gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
aagtgaacta tgggcgagga gcatagacag tgtggagaca ttgggcaagg 1850  
ggagaattca catcctgggt gggacagagc aggacgatgc aagattccat 1900  
cccactactc agaatggcat gctgcttaag acttttagat tgttttatttc 1950  
tggaattttt catttaatgt ttttggacca tggttgacca tggttaactg 2000  
agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050  
taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

<210> 410  
<211> 444  
<212> PRT  
<213> Homo sapiens

<400> 410  
Met Lys Val Val Pro Ser Leu Leu Leu Ser Val Leu Leu Ala Gln  
1 5 10 15  
Val Trp Leu Val Pro Gly Leu Ala Pro Ser Pro Gln Ser Pro Glu  
20 25 30  
Thr Pro Ala Pro Gln Asn Gln Thr Ser Arg Val Val Gln Ala Pro  
35 40 45  
Arg Glu Glu Glu Glu Asp Glu Gln Glu Ala Ser Glu Glu Lys Ala  
50 55 60  
Gly Glu Glu Glu Lys Ala Trp Leu Met Ala Ser Arg Gln Gln Leu  
65 70 75  
Ala Lys Glu Thr Ser Asn Phe Gly Phe Ser Leu Leu Arg Lys Ile  
80 85 90  
Ser Met Arg His Asp Gly Asn Met Val Phe Ser Pro Phe Gly Met  
95 100 105  
Ser Leu Ala Met Thr Gly Leu Met Leu Gly Ala Thr Gly Pro Thr  
110 115 120  
Glu Thr Gln Ile Lys Arg Gly Leu His Leu Gln Ala Leu Lys Pro  
125 130 135

**SECRET**

435

```
<210> 411
<211> 636
<212> DNA
<213> Homo sapiens
```

```
<400> 411
ctgggatcag ccactgcagc tccttgagca ctctctacag agacgcggac 50
cccagacatg aggaggctcc tcctgggtcac cagcctggtg gttgtgctgc 100
tgtgggaggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150
gtcaaacact ggccctcaga gcaggacca gagaaggcct ggggcgcccg 200
tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccttg 250
tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300
aggggccccca tccttcagg caccaaggcc tggatggaga ccgaggacac 350
cctgggccgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400
ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450
ccaaatcacc aggtgctcct gggaccggag gaagaccaag accacatcta 500
ccacccccag tagggctcca ggggccatca ctgccccgc cctgtcccaa 550
ggcccaggct gttgggactg ggaccctccc taccctgccc cagctagaca 600
aataaacccc aqcaqqcaaa aaaaaaaaaa aaaaaa 636
```

```
<210> 412
<211> 151
<212> PRT
<213> Homo sapiens
```

```

<400> 412
Met  Arg  Arg  Leu  Leu  Leu  Val  Thr  Ser  Leu  Val  Val  Val  Leu  Leu
   1              5              10              15

Trp  Glu  Ala  Gly  Ala  Val  Pro  Ala  Pro  Lys  Val  Pro  Ile  Lys  Met
              20              25              30

Gln  Val  Lys  His  Trp  Pro  Ser  Glu  Gln  Asp  Pro  Glu  Lys  Ala  Trp
              35              40              45

Gly  Ala  Arg  Val  Val  Glu  Pro  Pro  Glu  Lys  Asp  Asp  Gln  Leu  Val
              50              55              60

Val  Leu  Phe  Pro  Val  Gln  Lys  Pro  Lys  Leu  Leu  Thr  Thr  Glu  Glu
              65              70              75

```

Lys	Pro	Arg	Gly	Gln	Gly	Arg	Gly	Pro	Ile	Leu	Pro	Gly	Thr	Lys
				80					85					90
Ala	Trp	Met	Glu	Thr	Glu	Asp	Thr	Leu	Gly	Arg	Val	Leu	Ser	Pro
				95					100					105
Glu	Pro	Asp	His	Asp	Ser	Leu	Tyr	His	Pro	Pro	Pro	Glu	Glu	Asp
				110					115					120
Gln	Gly	Glu	Glu	Arg	Pro	Arg	Leu	Trp	Val	Met	Pro	Asn	His	Gln
				125					130					135
Val	Leu	Leu	Gly	Pro	Glu	Glu	Asp	Gln	Asp	His	Ile	Tyr	His	Pro
				140					145					150

Gln

<210> 413  
 <211> 1176  
 <212> DNA  
 <213> Homo sapiens

<400> 413  
 agaaagctgc actctgttga gctccagggc gcagtggagg gagggagtga 50  
 aggagctctc tgtaccaag gaaagtgcag ctgagactca gacaagatta 100  
 caatgaacca actcagcttc ctgctgtttc tcatagcgac caccagagga 150  
 tggagtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200  
 gtctccatct ctgcccagaa gctgcaagga aatcaaagac gaatgtccta 250  
 gtgcatttga tggcctgtat tttctccgca ctgagaatgg tggtatctac 300  
 cagaccttct gtgacatgac ctctgggggt ggcggtgga cctgggtggc 350  
 cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcatcgct 400  
 ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450  
 tgggccaact acaacacctt tggatctgca gaggcggcca cgagcgatga 500  
 ctacaagaac cctgggtact acgacatcca ggccaaggac ctgggcatct 550  
 ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600  
 ctgaggtacc gcacggacac tggcttcctc cagacactgg gacataatct 650  
 gtttggcatc taccagaaat atccagtga atatggagaa ggaaagtgtt 700  
 ggactgacaa cggcccgtg atccctgtgg tctatgattt tggcgacgcc 750  
 cagaaaacag catcttatta ctaccctat ggccagcggg aattcactgc 800  
 gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850



tgtgtgctgg aatgaggggtc accggatgta acactgagca tcactgcatt 900  
 ggtggaggag gatactttcc agaggccagt cccagcagt gtggagattt 950  
 ttctggtttt gattggagtg gatatggaac tcatgttggg tacagcagca 1000  
 gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050  
 tgtgggaggg aaccagacc tctcctcca accatgagat cccaaggatg 1100  
 gagaacaact taccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150  
 taaatcatat tgactcaaga aaaaaa 1176

<210> 414

<211> 313

<212> PRT

<213> Homo sapiens

<400> 414

Met	Asn	Gln	Leu	Ser	Phe	Leu	Leu	Phe	Leu	Ile	Ala	Thr	Thr	Arg	1	5	10	15
Gly	Trp	Ser	Thr	Asp	Glu	Ala	Asn	Thr	Tyr	Phe	Lys	Glu	Trp	Thr	20	25	30	
Cys	Ser	Ser	Ser	Pro	Ser	Leu	Pro	Arg	Ser	Cys	Lys	Glu	Ile	Lys	35	40	45	
Asp	Glu	Cys	Pro	Ser	Ala	Phe	Asp	Gly	Leu	Tyr	Phe	Leu	Arg	Thr	50	55	60	
Glu	Asn	Gly	Val	Ile	Tyr	Gln	Thr	Phe	Cys	Asp	Met	Thr	Ser	Gly	65	70	75	
Gly	Gly	Gly	Trp	Thr	Leu	Val	Ala	Ser	Val	His	Glu	Asn	Asp	Met	80	85	90	
Arg	Gly	Lys	Cys	Thr	Val	Gly	Asp	Arg	Trp	Ser	Ser	Gln	Gln	Gly	95	100	105	
Ser	Lys	Ala	Asp	Tyr	Pro	Glu	Gly	Asp	Gly	Asn	Trp	Ala	Asn	Tyr	110	115	120	
Asn	Thr	Phe	Gly	Ser	Ala	Glu	Ala	Ala	Thr	Ser	Asp	Asp	Tyr	Lys	125	130	135	
Asn	Pro	Gly	Tyr	Tyr	Asp	Ile	Gln	Ala	Lys	Asp	Leu	Gly	Ile	Trp	140	145	150	
His	Val	Pro	Asn	Lys	Ser	Pro	Met	Gln	His	Trp	Arg	Asn	Ser	Ser	155	160	165	
Leu	Leu	Arg	Tyr	Arg	Thr	Asp	Thr	Gly	Phe	Leu	Gln	Thr	Leu	Gly	170	175	180	
His	Asn	Leu	Phe	Gly	Ile	Tyr	Gln	Lys	Tyr	Pro	Val	Lys	Tyr	Gly	185	190	195	

Glu	Gly	Lys	Cys	Trp	Thr	Asp	Asn	Gly	Pro	Val	Ile	Pro	Val	Val	200	205	210
Tyr	Asp	Phe	Gly	Asp	Ala	Gln	Lys	Thr	Ala	Ser	Tyr	Tyr	Ser	Pro	215	220	225
Tyr	Gly	Gln	Arg	Glu	Phe	Thr	Ala	Gly	Phe	Val	Gln	Phe	Arg	Val	230	235	240
Phe	Asn	Asn	Glu	Arg	Ala	Ala	Asn	Ala	Leu	Cys	Ala	Gly	Met	Arg	245	250	255
Val	Thr	Gly	Cys	Asn	Thr	Glu	His	His	Cys	Ile	Gly	Gly	Gly	Gly	260	265	270
Tyr	Phe	Pro	Glu	Ala	Ser	Pro	Gln	Gln	Cys	Gly	Asp	Phe	Ser	Gly	275	280	285
Phe	Asp	Trp	Ser	Gly	Tyr	Gly	Thr	His	Val	Gly	Tyr	Ser	Ser	Ser	290	295	300
Arg	Glu	Ile	Thr	Glu	Ala	Ala	Val	Leu	Leu	Phe	Tyr	Arg			305	310	

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 eggctgggag ccacagaggc tgccgcatcc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tcctggggac gctgcaggtg 150  
 ctagecgtgc tggggggccgc ccatgaaagc gcagccatgg cggcatctgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgtt aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccaccatg aaacctacag cggcatctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agtctacacc caaaacaaca 450  
 agtggtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500  
 ccacaatagt tcagtgcacat ctgctgcttc atcagtaaca atcacaacaa 550  
 ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
 gttggtggta ttgtattaac gctgggagtt ttatctattc ttacattgg 650  
 atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700

aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750  
 attgatgctg ccctatcaat taattttggt ttattaatag tttaaaacaa 800  
 tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
 gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttgggttt 900  
 tgaaataaac atctggatct tatagaccgt tcatacaatg gtttttagcaa 950  
 gttcatagta agacaaacaa gtcctatctt ttttttttgg ctgggggtggg 1000  
 ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
 agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
 tttgggtatc ttttgtagct cacataaaga acttcagtgc ttttcagagc 1150  
 tggatatatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200  
 gatctgaagc ataatttaag aaaaacatca acattttttg tgctttaaac 1250  
 tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
 <211> 208  
 <212> PRT  
 <213> Homo sapiens

<400> 416  
 Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
 1 5 10 15  
 Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
 20 25 30  
 Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
 35 40 45  
 Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
 50 55 60  
 Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
 65 70 75  
 Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
 80 85 90  
 Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
 95 100 105  
 Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
 110 115 120  
 Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val  
 125 130 135  
 Thr His Asn Ser Ser Val Thr Ser Ala Ala Ser Ser Val Thr Ile

**069301**

<400>	417				
cagccggggtc	ccaagcctgt	gcctgagcct	gagcctgagc	ctgagcccgga	50
gccgggagcc	ggtcgcgggg	gctccgggct	gtgggaccgc	tgggccccca	100
gcgatggcga	ccctgtgggg	aggccttctt	cggcttggct	ccttgctcag	150
cctgtcgtgc	ctggcgcttt	ccgtgctgct	gctggcgcgag	ctgtcagacg	200
ccgccaagaa	tttcgaggat	gtcagatgta	aatgtatctg	ccctccctat	250
aaagaaaatt	ctgggcatat	ttataataag	aacatatctc	agaaagattg	300
tgattgcctt	catgtttgtg	agcccatgcc	tgtgcggggg	cctgatgtag	350
aagcatactg	tctacgctgt	gaatgcaa	atgaagaa	aagctctgtc	400
acaatcaagg	ttaccattat	aatttatctc	tccattttgg	gccttctact	450
tctgtacatg	gtatatctta	ctctggttga	gcccatactg	aagaggcgcc	500
tctttggaca	tgcacagt	atacagagt	atgatgatat	tggggatcac	550
cagccttttg	caaatgcaca	cgatgtgcta	gcccgcctcc	gcagtcgagc	600
caacgtgctg	aacaaggtag	aatatgcaca	gcagcgctgg	aagcttcaag	650
tccaagagca	gcgaaagtct	gtctttgacc	ggcatgttgt	cctcagctaa	700
ttgggaattg	aattcaagg	gactagaa	aaacaggcag	acaactggaa	750
agaactgact	gggttttgct	gggtttcatt	ttaatacctt	gttgatttca	800
ccaactgttg	ctggaagatt	caaaactgga	agcaaaaact	tgcttgattt	850
ttttttcttg	ttaacgta	aatagagaca	tttttaaa	cacacagctc	900
aaagtcagcc	aataagtctt	ttcctatttg	tgacttttac	taataaaaa	950





**SECRET**

[illegible]

<211> 1630

<213> Homo sapiens

cggtctcgagt	gcagctgttg	ggagatttca	gtgcattgcc	tcccttgggt	50
gctcttcac	ttggatttga	aagttgagag	cagcatgttt	tgccactga	100
aactcatcct	gctgccagt	ttactggatt	attccttggg	cctgaatgac	150
ttgaatgttt	ccccgcctga	gctaacagtc	catgtgggtg	attcagctct	200
gatgggatgt	gttttccaga	gcacagaaga	caaatgtata	ttcaagatag	250
actggactct	gtcaccagga	gagcacgcca	aggacgaata	tgtgctatac	300
tattactcca	atctcagtgt	gcctattggg	cgcttccaga	accgcgtaca	350
cttgatgggg	gacatcttat	gcaatgatgg	ctctctcctg	ctccaagatg	400
tgcaagaggc	tgaccagggg	acctatatct	gtgaaatccg	cctcaaaggg	450
gagagccagg	tgttcaagaa	ggcggtggtg	ctgcatgtgc	ttccagagga	500
gcccaaagag	ctcatggtcc	atgtgggtgg	attgattcag	atgggatgtg	550

ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatattt 600  
 tcaggacggc gcgcaaagga ggagattgta tttcgttact accacaaact 650  
 caggatgtct gtggagtact cccagagctg gggccacttc cagaatcgtg 700  
 tgaacctggt gggggacatt ttccgcaatg acggttccat catgcttcaa 750  
 ggagtgaggg agtcagatgg aggaaactac acctgcagta tccacctagg 800  
 gaacctggtg ttcaagaaaa ccattgtgct gcatgtcagc ccggaagagc 850  
 ctccaact ggtgaccccg gcagccctga ggcctctggt cttgggtggt 900  
 aatcagttgg tgatcattgt ggggaattgtc tgtgccacaa tctgtctgct 950  
 ccctgttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000  
 tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
 aaagaaaaac cctgccattt tgaaagatgt gaaggggaga aacacattta 1100  
 ctccccaata attgtacggg aggtgatcga ggaagaagaa ccaagtgaaa 1150  
 aatcagaggc cacctacatg accatgcacc cagtttggcc ttctctgagg 1200  
 tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
 aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
 ggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgatttc 1350  
 agactcccg cctcccagct gtctcctgt ctcattgttt ggtcaataca 1400  
 ctgaagatgg agaatttgga gcctggcaga gagactggac agctctggag 1450  
 gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
 aactggccc tggaaccag gctgagctga gtggcctcaa acccccgtt 1550  
 ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
 gaatcagaga taaaaaccaa cccaaatcaa 1630

<210> 422

<211> 394

<212> PRT

<213> Homo sapiens

<400> 422

Met	Phe	Cys	Pro	Leu	Lys	Leu	Ile	Leu	Leu	Pro	Val	Leu	Leu	Asp
1				5				10						15

Tyr	Ser	Leu	Gly	Leu	Asn	Asp	Leu	Asn	Val	Ser	Pro	Pro	Glu	Leu
				20					25					30

Thr	Val	His	Val	Gly	Asp	Ser	Ala	Leu	Met	Gly	Cys	Val	Phe	Gln
				35					40					45



Ser	Thr	Glu	Asp	Lys	Cys	Ile	Phe	Lys	Ile	Asp	Trp	Thr	Leu	Ser		50	55	60
Pro	Gly	Glu	His	Ala	Lys	Asp	Glu	Tyr	Val	Leu	Tyr	Tyr	Tyr	Ser		65	70	75
Asn	Leu	Ser	Val	Pro	Ile	Gly	Arg	Phe	Gln	Asn	Arg	Val	His	Leu		80	85	90
Met	Gly	Asp	Ile	Leu	Cys	Asn	Asp	Gly	Ser	Leu	Leu	Leu	Gln	Asp		95	100	105
Val	Gln	Glu	Ala	Asp	Gln	Gly	Thr	Tyr	Ile	Cys	Glu	Ile	Arg	Leu		110	115	120
Lys	Gly	Glu	Ser	Gln	Val	Phe	Lys	Lys	Ala	Val	Val	Leu	His	Val		125	130	135
Leu	Pro	Glu	Glu	Pro	Lys	Glu	Leu	Met	Val	His	Val	Gly	Gly	Leu		140	145	150
Ile	Gln	Met	Gly	Cys	Val	Phe	Gln	Ser	Thr	Glu	Val	Lys	His	Val		155	160	165
Thr	Lys	Val	Glu	Trp	Ile	Phe	Ser	Gly	Arg	Arg	Ala	Lys	Glu	Glu		170	175	180
Ile	Val	Phe	Arg	Tyr	Tyr	His	Lys	Leu	Arg	Met	Ser	Val	Glu	Tyr		185	190	195
Ser	Gln	Ser	Trp	Gly	His	Phe	Gln	Asn	Arg	Val	Asn	Leu	Val	Gly		200	205	210
Asp	Ile	Phe	Arg	Asn	Asp	Gly	Ser	Ile	Met	Leu	Gln	Gly	Val	Arg		215	220	225
Glu	Ser	Asp	Gly	Gly	Asn	Tyr	Thr	Cys	Ser	Ile	His	Leu	Gly	Asn		230	235	240
Leu	Val	Phe	Lys	Lys	Thr	Ile	Val	Leu	His	Val	Ser	Pro	Glu	Glu		245	250	255
Pro	Arg	Thr	Leu	Val	Thr	Pro	Ala	Ala	Leu	Arg	Pro	Leu	Val	Leu		260	265	270
Gly	Gly	Asn	Gln	Leu	Val	Ile	Ile	Val	Gly	Ile	Val	Cys	Ala	Thr		275	280	285
Ile	Leu	Leu	Leu	Pro	Val	Leu	Ile	Leu	Ile	Val	Lys	Lys	Thr	Cys		290	295	300
Gly	Asn	Lys	Ser	Ser	Val	Asn	Ser	Thr	Val	Leu	Val	Lys	Asn	Thr		305	310	315
Lys	Lys	Thr	Asn	Pro	Glu	Ile	Lys	Glu	Lys	Pro	Cys	His	Phe	Glu		320	325	330
Arg	Cys	Glu	Gly	Glu	Lys	His	Ile	Tyr	Ser	Pro	Ile	Ile	Val	Arg				

	335		340		345
Glu Val Ile Glu Glu Glu Glu Pro Ser	Glu Lys Ser Glu Ala Thr				
350	355	360			
Tyr Met Thr Met His Pro Val Trp Pro	Ser Leu Arg Ser Asp Arg				
365	370	375			
Asn Asn Ser Leu Glu Lys Lys Ser Gly	Gly Gly Met Pro Lys Thr				
380	385	390			
Gln Gln Ala Phe					

<210> 423  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 423  
 ctatgaagaa gcttcctgga aaacaataag caaaggaaaa caaatgtgtc 50  
 ccatctcaca tggttctacc ctactaaaaga caggaagatc ataaactgac 100  
 agatactgaa attgtaagag ttggaaacta cattttgcaa agtcattgaa 150  
 ctctgagctc agttgcagta ctcggaagc catgcaggat gaagatggat 200  
 acatcacctt aaatattaaa actcggaaac cagctctcgt ctccgttggc 250  
 cctgcatcct cctcctggtg gcgtgtgatg gctttgattc tgctgaccc 300  
 gtgcgtgggg atggttgcg ggctggtggc tctggggatt tggctctgtca 350  
 tgcagcgcaa ttacctacaa gatgagaatg aaaatcgcac aggaactctg 400  
 caacaattag caaagcgctt ctgtcaatat gtggtaaaac aatcagaact 450  
 aaagggcact ttcaaaggc ataaatgcag ccctgtgac acaaactgga 500  
 gatattatgg agatagctgc tatgggttct tcaggcacia cttaacatgg 550  
 gaagagagta agcagtactg cactgacatg aatgctactc tcctgaagat 600  
 tgacaaccgg aacattgtgg agtacatcaa agccaggact catttaattc 650  
 gttgggtcgg attatctcgc cagaagtcga atgaggtctg gaagtgggag 700  
 gatggctcgg ttatctcaga aaatatgttt gagtttttgg aagatggaaa 750  
 aggaaatatg aattgtgctt attttcataa tgggaaaatg caccctacct 800  
 tctgtgagaa caaacattat ttaatgtgtg agaggaaggc tggcatgacc 850  
 aaggtggacc aactacctta atgcaaagag gtggacagga taacacagat 900  
 aagggcttta ttgtacaata aaagatatgt atgaatgcat cagtagctga 950

aaaaaaaaaa aaa 963

<210> 424

<211> 229

<212> PRT

<213> Homo sapiens

<400> 424

Met	Gln	Asp	Glu	Asp	Gly	Tyr	Ile	Thr	Leu	Asn	Ile	Lys	Thr	Arg
1				5					10					15

Lys	Pro	Ala	Leu	Val	Ser	Val	Gly	Pro	Ala	Ser	Ser	Ser	Trp	Trp
				20					25					30

Arg	Val	Met	Ala	Leu	Ile	Leu	Leu	Ile	Leu	Cys	Val	Gly	Met	Val
				35					40					45

Val	Gly	Leu	Val	Ala	Leu	Gly	Ile	Trp	Ser	Val	Met	Gln	Arg	Asn
				50					55					60

Tyr	Leu	Gln	Asp	Glu	Asn	Glu	Asn	Arg	Thr	Gly	Thr	Leu	Gln	Gln
				65					70					75

Leu	Ala	Lys	Arg	Phe	Cys	Gln	Tyr	Val	Val	Lys	Gln	Ser	Glu	Leu
				80					85					90

Lys	Gly	Thr	Phe	Lys	Gly	His	Lys	Cys	Ser	Pro	Cys	Asp	Thr	Asn
				95					100					105

Trp	Arg	Tyr	Tyr	Gly	Asp	Ser	Cys	Tyr	Gly	Phe	Phe	Arg	His	Asn
				110					115					120

Leu	Thr	Trp	Glu	Glu	Ser	Lys	Gln	Tyr	Cys	Thr	Asp	Met	Asn	Ala
				125					130					135

Thr	Leu	Leu	Lys	Ile	Asp	Asn	Arg	Asn	Ile	Val	Glu	Tyr	Ile	Lys
				140					145					150

Ala	Arg	Thr	His	Leu	Ile	Arg	Trp	Val	Gly	Leu	Ser	Arg	Gln	Lys
				155					160					165

Ser	Asn	Glu	Val	Trp	Lys	Trp	Glu	Asp	Gly	Ser	Val	Ile	Ser	Glu
				170					175					180

Asn	Met	Phe	Glu	Phe	Leu	Glu	Asp	Gly	Lys	Gly	Asn	Met	Asn	Cys
				185					190					195

Ala	Tyr	Phe	His	Asn	Gly	Lys	Met	His	Pro	Thr	Phe	Cys	Glu	Asn
				200					205					210

Lys	His	Tyr	Leu	Met	Cys	Glu	Arg	Lys	Ala	Gly	Met	Thr	Lys	Val
				215					220					225

Asp Gln Leu Pro

<210> 425

<211> 24

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 425  
 tgcagcccct gtgacacaaa ctgg 24  
  
 <210> 426  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 426  
 ctgagataac cgagccatcc tcccac 26  
  
 <210> 427  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 427  
 gcttcctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49  
  
 <210> 428  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 428  
 ccaccaatgg cagccccacc t 21  
  
 <210> 429  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 429  
 gactgccctc cctgcca 17  
  
 <210> 430  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 430  
 caaaaagcct ggaagtcttc aaag 24

<210> 431  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 431  
 cagctggact gcaggtgcta 20

<210> 432  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 432  
 cagtgagcac agcaagtgtc ct 22

<210> 433  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 433  
 ggccacctcc ttgagtcttc agttccct 28

<210> 434  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 434  
 caactactgg ctaaagctgg tgaa 24

<210> 435  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

[illegible]

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

[illegible][illegible][illegible]

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

[illegible]

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

**0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

<210> 441  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 441  
 aatacgaaca gtgcacgctg at 22  
  
 <210> 442  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 442  
 tccagagagc caagcacggc aga 23  
  
 <210> 443  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 443  
 tctagccagc ttggctccaa ta 22  
  
 <210> 444  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 444  
 cctggctcta gcaccaactc ata 23  
  
 <210> 445  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 445  
 tcagtggccc taaggagatg ggcct 25  
  
 <210> 446  
 <211> 24  
 <212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 446  
caggatacag tgggaatctt gaga 24

<210> 447  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 447  
cctgaagggc ttggagctta gt 22

<210> 448  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 448  
tctttggcca tttcccatgg ctca 24

<210> 449  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 449  
cccatggcga ggaggaat 18

<210> 450  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 450  
tgcgtacgtg tgccttcag 19

<210> 451  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>



<223> Synthetic oligonucleotide probe

<400> 451  
cagcacccca ggcagtctgt gtgt 24

<210> 452  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 452  
aacgtgctac acgaccagtg tact 24

<210> 453  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 453  
cacagcatat tcagatgact aaatcca 27

<210> 454  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 454  
ttgttttagtt ctccaccgtg tctccacaga a 31

<210> 455  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 455  
tgtcagaatg caacctggct t 21

<210> 456  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 456

tgatgtgcct ggctcagaac 20

<210> 457

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 457

tgcacctaga tgtccccagc accc 24

<210> 458

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 458

aagatgcgcc aggcttctta 20

<210> 459

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 459

ctcctgtacg gtctgctcac ttat 24

<210> 460

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 460

tggctgtcag tccagtgtgc atgg 24

<210> 461

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 461

gcatagggat agataagatc ctgctttat 29

<210> 462

<211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 462  
 caaattaaag tacccatcag gagagaa 27  
  
 <210> 463  
 <211> 37  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 463  
 aagttgctaa atatatacat tatctgcgcc aagtcca 37  
  
 <210> 464  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 464  
 gtgctgcca caattcatga 20  
  
 <210> 465  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 465  
 gtccttggtgta tgggtctgaa ttatat 26  
  
 <210> 466  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 466  
 actctctgca cccacagtc accactatct c 31  
  
 <210> 467  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

```

<220>
<223> Synthetic oligonucleotide probe

<400> 467
ctgaggaacc agccatgtct ct 22

<210> 468
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 468
gaccagatgc aggtacagga tga 23

<210> 469
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 469
ctgccccttc agtgatgcca acctt 25

<210> 470
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 470
gggtggaggc tctactgagta ga 22

<210> 471
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 471
caatacaggc aatgaaactc tgcttctt 28

<210> 472
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

```

<400> 472  
tcctcttaag cataggccat tttctcagtt tagaca 36

<210> 473  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 473  
ggtggtcttg cttggtctca c 21

<210> 474  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 474  
ccgtcgttca gcaacatgac 20

<210> 475  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 475  
accgcctacc gctgtgcca 20

<210> 476  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 476  
cagtaaaacc acaggctgga ttt 23

<210> 477  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 477  
cctgagagca agaaggttga gaat 24

<210> 478  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 478  
 tagacagggga ccatggcccg ca 22  
  
 <210> 479  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 479  
 tgggctgtag aagagttgtt g 21  
  
 <210> 480  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 480  
 tccacacttg gccagtttat 20  
  
 <210> 481  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 481  
 cccaacttct cccttttgga ccct 24  
  
 <210> 482  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 482  
 gtcccttcac tgtttagagc atga 24  
  
 <210> 483  
 <211> 26  
 <212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 483  
actctccccc tcaacagcct cctgag 26

<210> 484  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 484  
gtggtcaggg cagatccttt 20

<210> 485  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 485  
acagatccag gagagactcc aca 23

<210> 486  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 486  
agcggcgctc ccagcctgaa t 21

<210> 487  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 487  
catgattggg cctcagttcc atc 23

<210> 488  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

```

<223> Synthetic oligonucleotide probe

<400> 488
    atagagggt cccagaagtg 20

<210> 489
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 489
    cagggccttc agggccttca c 21

<210> 490
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 490
    gctcagccaa acactgtca 19

<210> 491
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 491
    ggggccctga cagtgtt 17

<210> 492
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 492
    ctgagccgag actggagcat ctacac 26

<210> 493
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 493

```



gtgggcagcg tcttgtc 17

<210> 494

<211> 1231

<212> DNA

<213> Homo Sapien

<400> 494

cccacgcgtc cgcgagtcg cgagttctg cctccgcctg ccagtctcgc 50  
ccgcgatccc ggccccggggc tgtggcgctg actccgaccc aggcagccag 100  
cagcccgcgc gggagccgga ccgccgccgg aggagctcgg acggcatgct 150  
gagccccctc ctttgctgaa gcccagtgct ggagaagccc gggcaaacgc 200  
aggctaagga gaccaaagcg gcgaagtcgc gagacagcgg acaagcagcg 250  
gaggagaagg aggaggaggc gaaccagag aggggcagca aaagaagcgg 300  
tggtggtggg cgtcgtggcc atggcgccgg ctatcgccag ctcgctcatc 350  
cgtcagaaga ggcaagcccc cgagcgcgag aaatccaacg cctgcaagtg 400  
tgtcagcagc ccagcaaaag gcaagaccag ctgcgacaaa aacaagttaa 450  
atgtcttttc ccgggtcaaa ctcttcggct ccaagaagag gcgcagaaga 500  
agaccagagc ctgagcttaa gggatatagt accaagctat acagccgaca 550  
aggctaccac ttgcagctgc aggcggatgg aaccattgat ggcaccaaag 600  
atgaggacag cacttacact ctgtttaacc tcatccctgt gggctctgca 650  
gtggtggcta tccaaggagt tcaaaccaag ctgtacttgg caatgaacag 700  
tgagggatac ttgtacacct cggaactttt cacacctgag tgcaaattca 750  
aagaatcagt gtttgaaaat tattatgtga catattcatc aatgatatac 800  
cgtcagcagc agtcaggccg aggggtggat ctgggtctga acaaagaagg 850  
agagatcatg aaaggcaacc atgtgaagaa gaacaagcct gcagctcatt 900  
ttctgcctaa accactgaaa gtggccatgt acaaggagcc atcactgcac 950  
gatctcacgg agttctcccg atctggaagc gggaccccaa ccaagagcag 1000  
aagtgtctct ggcgctgctga acggaggcaa atccatgagc cacaatgaat 1050  
caacgtagcc agtgagggca aaagaagggc tctgtaacag aaccttacct 1100  
ccaggtgctg ttgaattctt ctagcagtc ttcacccaaa agttcaaatt 1150  
tgtcagtgac atttacaaa caaacaggca gagttcacta ttctatctgc 1200  
cattagacct tcttatcatc cataactaaag c 1231

09499-03301

# SECRET

[illegible]

414



ggagccttct ctccacagtg tccccgaggc ctcccccttc agtccccctg 1400  
 cccctgaaa tgtagtcctt ggactggagg ttccctgcac tcccagtgag 1450  
 ccagccacca ccacaacctg t 1471

<210> 497  
 <211> 225  
 <212> PRT  
 <213> Homo Sapien

<400> 497  
 Met Ala Ala Leu Ala Ser Ser Leu Ile Arg Gln Lys Arg Glu Val  
 1 5 10 15  
 Arg Glu Pro Gly Gly Ser Arg Pro Val Ser Ala Gln Arg Arg Val  
 20 25 30  
 Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile  
 35 40 45  
 Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
 50 55 60  
 Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
 65 70 75  
 Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
 80 85 90  
 Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
 95 100 105  
 Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys  
 110 115 120  
 Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
 125 130 135  
 Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe  
 140 145 150  
 Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
 155 160 165  
 Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
 170 175 180  
 Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
 185 190 195  
 Phe Leu Pro Lys Leu Leu Glu Val Ala Met Tyr Gln Glu Pro Ser  
 200 205 210  
 Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro  
 215 220 225

<210> 498

[illegible]

atggccgcgcg	ccatcgctag	cggcttgatc	cgccagaagc	ggcagggcgcg	50
ggagcagcac	tgggaccggc	cgtctgccag	caggaggcgcg	agcagcccca	100
gcaagaaccg	cgggctctgc	aacggcaacc	tggtggatat	cttctccaaa	150
gtgcgcatct	tcggcctcaa	gaagcgcagg	ttgcggcgcc	aagatcccca	200
gctcaagggg	atagtgacca	ggttatattg	caggcaaggc	tactacttgc	250
aaatgcaccc	cgatggagct	ctcgatggaa	ccaaggatga	cagcactaat	300
tctacactct	tcaacctcat	accagtggga	ctacgtgttg	ttgccatcca	350
gggagtga	acagggttgt	atatagccat	gaatggagaa	ggttacctct	400
acccatcaga	actttttacc	cctgaatgca	agtttaaaga	atctgttttt	450
gaaaattatt	atgtaatcta	ctcatccatg	ttgtacagac	aacaggaatc	500
tggtagagcc	tggttttttg	gattaaataa	ggaagggcaa	gctatgaaag	550
ggaacagagt	aaagaaaacc	aaaccagcag	ctcattttct	acccaagcca	600
ttggaagt	ccatgtaccg	agaaccatct	ttgcatgatg	ttggggaaac	650
ggtcccgaag	cctgggggtga	cgccaagtaa	aagcacaagt	gcgtctgcaa	700
taatgaatgg	aggcaaacca	gtcaacaaga	gtaagacaac	atag	744

<400> 499

Met	Ala	Ala	Ala	Ile	Ala	Ser	Gly	Leu	Ile	Arg	Gln	Lys	Arg	Gln
1				5					10					15
Ala	Arg	Glu	Gln	His	Trp	Asp	Arg	Pro	Ser	Ala	Ser	Arg	Arg	Arg
				20					25					30
Ser	Ser	Pro	Ser	Lys	Asn	Arg	Gly	Leu	Cys	Asn	Gly	Asn	Leu	Val
				35					40					45
Asp	Ile	Phe	Ser	Lys	Val	Arg	Ile	Phe	Gly	Leu	Lys	Lys	Arg	Arg
				50					55					60
Leu	Arg	Arg	Gln	Asp	Pro	Gln	Leu	Lys	Gly	Ile	Val	Thr	Arg	Leu
				65					70					75
Tyr	Cys	Arg	Gln	Gly	Tyr	Tyr	Leu	Gln	Met	His	Pro	Asp	Gly	Ala
				80					85					90

Leu	Asp	Gly	Thr	Lys	Asp	Asp	Ser	Thr	Asn	Ser	Thr	Leu	Phe	Asn	95	100	105
Leu	Ile	Pro	Val	Gly	Leu	Arg	Val	Val	Ala	Ile	Gln	Gly	Val	Lys	110	115	120
Thr	Gly	Leu	Tyr	Ile	Ala	Met	Asn	Gly	Glu	Gly	Tyr	Leu	Tyr	Pro	125	130	135
Ser	Glu	Leu	Phe	Thr	Pro	Glu	Cys	Lys	Phe	Lys	Glu	Ser	Val	Phe	140	145	150
Glu	Asn	Tyr	Tyr	Val	Ile	Tyr	Ser	Ser	Met	Leu	Tyr	Arg	Gln	Gln	155	160	165
Glu	Ser	Gly	Arg	Ala	Trp	Phe	Leu	Gly	Leu	Asn	Lys	Glu	Gly	Gln	170	175	180
Ala	Met	Lys	Gly	Asn	Arg	Val	Lys	Lys	Thr	Lys	Pro	Ala	Ala	His	185	190	195
Phe	Leu	Pro	Lys	Pro	Leu	Glu	Val	Ala	Met	Tyr	Arg	Glu	Pro	Ser	200	205	210
Leu	His	Asp	Val	Gly	Glu	Thr	Val	Pro	Lys	Pro	Gly	Val	Thr	Pro	215	220	225
Ser	Lys	Ser	Thr	Ser	Ala	Ser	Ala	Ile	Met	Asn	Gly	Gly	Lys	Pro	230	235	240
Val	Asn	Lys	Ser	Lys	Thr	Thr									245		

<210> 500  
 <211> 2906  
 <212> DNA  
 <213> Homo Sapien

<400> 500  
 ggggagagga attgaccatg taaaaggaga cttttttttt tgggtggtggt 50  
 ggctgttggg tgccttgcaa aaatgaagga tgcaggacgc agctttctcc 100  
 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttggtgtggt ctgacataaa taaataatct taaagcagct gttcccctcc 300  
 ccacccccaa aaaaaaggat gattggaaat gaagaaccga ggattcacia 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
 gatatttttg gaatgaaaag tttggggctt ttttagtaaa gtaaagaact 450  
 ggtgtggtgg tgttttctt tctttttgaa tttcccacia gaggagagga 500

aattaataat	acatctgcaa	agaaatttca	gagaagaaaa	gttgaccgcg	550
gcagattgag	gcattgattg	ggggagagaa	accagcagag	cacagttgga	600
tttgtgccta	tgttgactaa	aattgacgga	taattgcagt	tggatttttc	650
ttcatcaacc	tccttttttt	taaattttta	ttccttttgg	tatcaagatc	700
atgcgttttc	tcttgttctt	aaccacctgg	atttccatct	ggatgttgct	750
gtgatcagtc	tgaaatacaa	ctgtttgaat	tccagaagga	ccaacaccag	800
ataaattatg	aatgttgaac	aagatgacct	tacatccaca	gcagataatg	850
ataggtccta	ggtttaacag	ggccctattt	gaccccctgc	ttgtggtgct	900
gctggctctt	caacttcttg	tgggtggctgg	tctggtgcgg	gctcagacct	950
gcccttctgt	gtgctcctgc	agcaaccagt	tcagcaaggt	gatttgtggt	1000
cggaaaaacc	tgcgtgaggt	tccggatggc	atctccacca	acacacggct	1050
gctgaacctc	catgagaacc	aaatccagat	catcaaagtg	aacagcttca	1100
agcacttgag	gcacttgga	atcctacagt	tgagtaggaa	ccatatcaga	1150
accattgaaa	ttggggcttt	caatggtctg	gcgaacctca	acactctgga	1200
actctttgac	aatcgtctta	ctaccatccc	gaatggagct	tttgtatact	1250
tgtctaaact	gaaggagctc	tggttgcgaa	acaaccccat	tgaaagcatc	1300
ccttcttatg	cttttaacag	aattccttct	ttgcgccgac	tagacttagg	1350
ggaattgaaa	agactttcat	acatctcaga	aggtgccttt	gaaggtctgt	1400
ccaacttgag	gtatttgaac	cttgccatgt	gcaaccttcg	ggaaatccct	1450
aacctcacac	cgctcataaa	actagatgag	ctggatcttt	ctgggaatca	1500
tttatctgcc	atcaggcctg	gctctttcca	gggtttgatg	caccttcaaa	1550
aactgtggat	gatacagtcc	cagattcaag	tgattgaacg	gaatgccttt	1600
gacaaccttc	agtcactagt	ggagatcaac	ctggcacaca	ataatctaac	1650
attactgcct	catgacctct	tcactccctt	gcatcatcta	gagcggatac	1700
atttacatca	caacccttgg	aactgtaact	gtgacatact	gtggctcagc	1750
tgggtggataa	aagacatggc	cccctcgaac	acagcttggt	gtgcccggtg	1800
taacactcct	cccaatctaa	aggggaggta	cattggagag	ctcgaccaga	1850
attacttcac	atgctatgct	ccggtgattg	tggagcccc	tgcagacctc	1900
aatgtcactg	aaggcatggc	agctgagctg	aaatgtcggg	cctccacatc	1950

cctgacatct gtatcttggga ttactccaaa tggaacagtc atgacacatg 2000  
 gggcgtagaa agtgcggata gctgtgctca gtgatggtac gttaaatttc 2050  
 acaaagttaa ctgtgcaaga tacaggcatg tacacatgta tgggtgagtaa 2100  
 ttccgttggg aatactactg cttcagccac cctgaatgtt actgcagcaa 2150  
 ccactactcc tttctcttac ttttcaaccg tcacagtaga gactatggaa 2200  
 ccgtctcagg atgaggcacg gaccacagat aacaatgtgg gtcccactcc 2250  
 agtgggtcgac tgggagacca ccaatgtgac cacctctctc acaccacaga 2300  
 gcacaaggtc gacagagaaa accttcacca tcccagtgac tgatataaac 2350  
 agtgggatcc caggaattga tgaggatcatg aagactacca aaatcatcat 2400  
 tgggtgtttt gtggccatca cactcatggc tgcagtgatg ctggtcattt 2450  
 tctacaagat gaggaagcag caccatcggc aaaaccatca cgccccaaca 2500  
 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
 catggaaagc cacctgcca tgctgtctat cgagcatgag cacctaaatc 2600  
 actataactc atacaaatct cccttcaacc acacaacaac agttaacaca 2650  
 ataaattcaa tacacagttc agtgcatgaa ccgttattga tccgaatgaa 2700  
 ctctaaagac aatgtacaag agactcaaat ctaaaacatt tacagagtta 2750  
 caaaaaacaa acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800  
 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaaaca 2850  
 aaaagaaaag aaatttattt attaaaaatt ctattgtgat ctaaagcaga 2900  
 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501  
 Met Leu Asn Lys Met Thr Leu His Pro Gln Gln Ile Met Ile Gly  
 1 5 10 15  
 Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu  
 20 25 30  
 Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln  
 35 40 45  
 Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val  
 50 55 60



Ile	Cys	Val	Arg	Lys 65	Asn	Leu	Arg	Glu	Val 70	Pro	Asp	Gly	Ile	Ser 75
Thr	Asn	Thr	Arg	Leu 80	Leu	Asn	Leu	His	Glu 85	Asn	Gln	Ile	Gln	Ile 90
Ile	Lys	Val	Asn	Ser 95	Phe	Lys	His	Leu	Arg 100	His	Leu	Glu	Ile	Leu 105
Gln	Leu	Ser	Arg	Asn 110	His	Ile	Arg	Thr	Ile 115	Glu	Ile	Gly	Ala	Phe 120
Asn	Gly	Leu	Ala	Asn 125	Leu	Asn	Thr	Leu	Glu 130	Leu	Phe	Asp	Asn	Arg 135
Leu	Thr	Thr	Ile	Pro 140	Asn	Gly	Ala	Phe	Val 145	Tyr	Leu	Ser	Lys	Leu 150
Lys	Glu	Leu	Trp	Leu 155	Arg	Asn	Asn	Pro	Ile 160	Glu	Ser	Ile	Pro	Ser 165
Tyr	Ala	Phe	Asn	Arg 170	Ile	Pro	Ser	Leu	Arg 175	Arg	Leu	Asp	Leu	Gly 180
Glu	Leu	Lys	Arg	Leu 185	Ser	Tyr	Ile	Ser	Glu 190	Gly	Ala	Phe	Glu	Gly 195
Leu	Ser	Asn	Leu	Arg 200	Tyr	Leu	Asn	Leu	Ala 205	Met	Cys	Asn	Leu	Arg 210
Glu	Ile	Pro	Asn	Leu 215	Thr	Pro	Leu	Ile	Lys 220	Leu	Asp	Glu	Leu	Asp 225
Leu	Ser	Gly	Asn	His 230	Leu	Ser	Ala	Ile	Arg 235	Pro	Gly	Ser	Phe	Gln 240
Gly	Leu	Met	His	Leu 245	Gln	Lys	Leu	Trp	Met 250	Ile	Gln	Ser	Gln	Ile 255
Gln	Val	Ile	Glu	Arg 260	Asn	Ala	Phe	Asp	Asn 265	Leu	Gln	Ser	Leu	Val 270
Glu	Ile	Asn	Leu	Ala 275	His	Asn	Asn	Leu	Thr 280	Leu	Leu	Pro	His	Asp 285
Leu	Phe	Thr	Pro	Leu 290	His	His	Leu	Glu	Arg 295	Ile	His	Leu	His	His 300
Asn	Pro	Trp	Asn	Cys 305	Asn	Cys	Asp	Ile	Leu 310	Trp	Leu	Ser	Trp	Trp 315
Ile	Lys	Asp	Met	Ala 320	Pro	Ser	Asn	Thr	Ala 325	Cys	Cys	Ala	Arg	Cys 330
Asn	Thr	Pro	Pro	Asn 335	Leu	Lys	Gly	Arg	Tyr 340	Ile	Gly	Glu	Leu	Asp 345
Gln	Asn	Tyr	Phe	Thr	Cys	Tyr	Ala	Pro	Val	Ile	Val	Glu	Pro	Pro

Ala Asp Leu Asn Val Thr Glu Gly Met	Ala Ala Glu Leu Lys Cys	350	355	360
365	370			375
Arg Ala Ser Thr Ser Leu Thr Ser Val	Ser Trp Ile Thr Pro Asn	380	385	390
Gly Thr Val Met Thr His Gly Ala Tyr	Lys Val Arg Ile Ala Val	395	400	405
Leu Ser Asp Gly Thr Leu Asn Phe Thr	Asn Val Thr Val Gln Asp	410	415	420
Thr Gly Met Tyr Thr Cys Met Val Ser	Asn Ser Val Gly Asn Thr	425	430	435
Thr Ala Ser Ala Thr Leu Asn Val Thr	Ala Ala Thr Thr Thr Pro	440	445	450
Phe Ser Tyr Phe Ser Thr Val Thr Val	Glu Thr Met Glu Pro Ser	455	460	465
Gln Asp Glu Ala Arg Thr Thr Asp Asn	Asn Val Gly Pro Thr Pro	470	475	480
Val Val Asp Trp Glu Thr Thr Asn Val	Thr Thr Ser Leu Thr Pro	485	490	495
Gln Ser Thr Arg Ser Thr Glu Lys Thr	Phe Thr Ile Pro Val Thr	500	505	510
Asp Ile Asn Ser Gly Ile Pro Gly Ile	Asp Glu Val Met Lys Thr	515	520	525
Thr Lys Ile Ile Ile Gly Cys Phe Val	Ala Ile Thr Leu Met Ala	530	535	540
Ala Val Met Leu Val Ile Phe Tyr Lys	Met Arg Lys Gln His His	545	550	555
Arg Gln Asn His His Ala Pro Thr Arg	Thr Val Glu Ile Ile Asn	560	565	570
Val Asp Asp Glu Ile Thr Gly Asp Thr	Pro Met Glu Ser His Leu	575	580	585
Pro Met Pro Ala Ile Glu His Glu His	Leu Asn His Tyr Asn Ser	590	595	600
Tyr Lys Ser Pro Phe Asn His Thr Thr	Thr Val Asn Thr Ile Asn	605	610	615
Ser Ile His Ser Ser Val His Glu Pro	Leu Leu Ile Arg Met Asn	620	625	630
Ser Lys Asp Asn Val Gln Glu Thr Gln	Ile	635	640	

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
 gcgccgggag cccatctgcc cccaggggca cggggcgcg ggccggctcc 50  
 cgcccggcac atggctgcag ccacctcgcg cgcaccccga ggccgcgcg 100  
 ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg cccgcgtccg gggatcggga tgtccctcct 200  
 ctttctcctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaaccaa aagtggatgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttcctgg caggagatgc ctcttgtag attgaacctc tgaagcccag 500  
 tgatgagggc cggtagacct gtaagggtta gaattcaggg cgctacgtgt 550  
 ggagccatgt catcttaaaa gtcttagtga gaccatccaa gccaagtgt 600  
 gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
 gtcactctct ggcacagagc ccattgtgta ttactggcag cgaatccgag 700  
 agaaagaggg agaggatgaa cgtctgcctc ccaaacttag gattgactac 750  
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
 actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
 tgcgagtaac tgtacagtat gtacaaagca tcggcatggg tgcaggagca 900  
 gtgacaggca tagtggctgg agccctgctg attttctct tggtgtggct 950  
 gctaattccga aggaaagaca aagaaagata tgaggaagaa gagagaccta 1000  
 atgaaattcg agaagatgct gaagctccaa aagcccgtct tgtgaaacct 1050  
 agctcctctt cctcaggctc tcggagctca cgctctggtt cttcctccac 1100  
 tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150  
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200  
 ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaatctgac 1250  
 caaagcagaa accacacca gcatgatccc cagccagagc agagccttcc 1300

aaacggtctg aattacaatg gacttgactc ccacgctttc ctaggagtca 1350  
 gggctcttgg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400  
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
 agatgagcat tttccttata caataccaaa caagcaaaaag gatgtaagct 1500  
 gattcatctg taaaaaggca tcttattgtg ccttttagacc agagtaaggg 1550  
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaaggt 1600  
 tggggaaagg tgaggatgaat atacctaaaa cttttaatgt gggatatattt 1650  
 gtatcagtgc tttgattcac aattttcaag aggaaatggg atgctgtttg 1700  
 taaattttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
 cagtcaagca gaaccacacag ccttattaca cctgtctaca ccatgtactg 1800  
 agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850  
 ctgacttaac ttcatttgtc ataaggtttg gatattaatt tcaaggggag 1900  
 ttgaaatagt gggagatgga gaagagtga tgagtttctc ccactctata 1950  
 ctaatctcac tatttgtatt gagcccaaaa taactatgaa aggagacaaa 2000  
 aatttgtgac aaaggattgt gaagagcttt ccactctcat gatgttatga 2050  
 ggattgttga caaacattag aaatatataa tggagcaatt gtggatttcc 2100  
 cctcaaatca gatgcctcta aggactttcc tgctagatat ttctggaagg 2150  
 agaaaataca acatgtcatt tatcaacgct cttagaaaga attcttctag 2200  
 agaaaaaggg atctaggaat gctgaaagat tacccaacat accattatag 2250  
 tctcttcttt ctgagaaaat gtgaaaccag aattgcaaga ctgggtggac 2300  
 tagaaaggga gattagatca gttttctctt aatatgtcaa ggaaggtagc 2350  
 cgggcatggt gccaggcacc tgtaggaaaa tccagcaggt ggaggttgca 2400  
 gtgagccgag attatgccat tgcactccag cctgggtgac agagcgggac 2450  
 tccgtctc 2458

<210> 503

<211> 373

<212> PRT

<213> Homo Sapien

<400> 503

Met	Ser	Leu	Leu	Leu	Leu	Leu	Leu	Val	Ser	Tyr	Tyr	Val	Gly
1				5				10					15

Thr Leu Gly Thr His Thr Glu Ile Lys Arg Val Ala Glu Glu Lys

	20	25	30
Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp	35	40	45
Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln	50	55	60
Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu	65	70	75
Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu	80	85	90
Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp	95	100	105
Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val	110	115	120
Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro	125	130	135
Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr	140	145	150
Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr	155	160	165
Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro	170	175	180
Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu	185	190	195
Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala	200	205	210
Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val	215	220	225
Gln Tyr Val Gln Ser Ile Gly Met Val Ala Gly Ala Val Thr Gly	230	235	240
Ile Val Ala Gly Ala Leu Leu Ile Phe Leu Leu Val Trp Leu Leu	245	250	255
Ile Arg Arg Lys Asp Lys Glu Arg Tyr Glu Glu Glu Glu Arg Pro	260	265	270
Asn Glu Ile Arg Glu Asp Ala Glu Ala Pro Lys Ala Arg Leu Val	275	280	285
Lys Pro Ser Ser Ser Ser Ser Gly Ser Arg Ser Ser Arg Ser Gly	290	295	300
Ser Ser Ser Thr Arg Ser Thr Ala Asn Ser Ala Ser Arg Ser Gln	305	310	315

**090419Z**

<400>	504				
cgcgaggcg	ggggagcctg	ggaccaggag	cgagagccgc	ctacctgcag	50
ccgccgcca	cggcacggca	gccaccatgg	cgctcctgct	gtgcttcgtg	100
ctcctgtgcg	gagtagtgga	tttcgccaga	agtttgagta	tcactactcc	150
tgaagagatg	attgaaaaag	ccaaagggga	aactgcctat	ctgccatgca	200
aatttacgct	tagtcccga	gaccagggac	cgctggacat	cgagtggctg	250
atatcaccag	ctgataatca	gaaggtggat	caagtgatta	ttttatatcc	300
tggagacaaa	atztatgatg	actactatcc	agatctgaaa	ggccgagtac	350
atztatcgag	taatgatctc	aaatctggtg	atgcatcaat	aaatgtaacg	400
aatttacaac	tgtcagatat	tggcacatat	cagtgcaaag	tgaaaaaagc	450
tcctggtggt	gcaaataaga	agattcatct	ggtagttctt	gttaagcctt	500
caggtgagag	atgttacggt	gatggatctg	aagaaattgg	aagtgacttt	550
aagataaaat	gtgaacacaa	agaagggttc	cttccattac	agtatgagtg	600
gcaaaaattg	tctgactcac	agaaaatgcc	cacttcatgg	ttagcagaaa	650
tgacttcac	tgttatatct	gtaaaaaatg	cctcttctga	gtactctggg	700
acatacagct	gtacagtcag	aaacagagtg	ggctctgac	agtgcctggt	750
gcgtctaaac	gttgtccctc	cttcaaataa	agctggacta	attgcaggag	800
ccattatagg	aactttgctt	gctctagcgc	tcattggtct	tatcatcttt	850
tgctgtcgta	aaaagcgag	agaagaaaaa	tatgaaaagg	aagttcatca	900
cgatatcagg	gaagatgtgc	cacctccaaa	gagccgtacg	tccactgcc	950
gaagctacat	cggcagtaat	cattcatccc	tgggggtccat	gtctccttcc	1000

[illegible]





Val	Val	Leu	Val	Lys 140	Pro	Ser	Gly	Ala	Arg 145	Cys	Tyr	Val	Asp	Gly 150
Ser	Glu	Glu	Ile	Gly 155	Ser	Asp	Phe	Lys	Ile 160	Lys	Cys	Glu	Pro	Lys 165
Glu	Gly	Ser	Leu	Pro 170	Leu	Gln	Tyr	Glu	Trp 175	Gln	Lys	Leu	Ser	Asp 180
Ser	Gln	Lys	Met	Pro 185	Thr	Ser	Trp	Leu	Ala 190	Glu	Met	Thr	Ser	Ser 195
Val	Ile	Ser	Val	Lys 200	Asn	Ala	Ser	Ser	Glu 205	Tyr	Ser	Gly	Thr	Tyr 210
Ser	Cys	Thr	Val	Arg 215	Asn	Arg	Val	Gly	Ser 220	Asp	Gln	Cys	Leu	Leu 225
Arg	Leu	Asn	Val	Val 230	Pro	Pro	Ser	Asn	Lys 235	Ala	Gly	Leu	Ile	Ala 240
Gly	Ala	Ile	Ile	Gly 245	Thr	Leu	Leu	Ala	Leu 250	Ala	Leu	Ile	Gly	Leu 255
Ile	Ile	Phe	Cys	Cys 260	Arg	Lys	Lys	Arg	Arg 265	Glu	Glu	Lys	Tyr	Glu 270
Lys	Glu	Val	His	His 275	Asp	Ile	Arg	Glu	Asp 280	Val	Pro	Pro	Pro	Lys 285
Ser	Arg	Thr	Ser	Thr 290	Ala	Arg	Ser	Tyr	Ile 295	Gly	Ser	Asn	His	Ser 300
Ser	Leu	Gly	Ser	Met 305	Ser	Pro	Ser	Asn	Met 310	Glu	Gly	Tyr	Ser	Lys 315
Thr	Gln	Tyr	Asn	Gln 320	Val	Pro	Ser	Glu	Asp 325	Phe	Glu	Arg	Thr	Pro 330
Gln	Ser	Pro	Thr	Leu 335	Pro	Pro	Ala	Lys	Phe 340	Lys	Tyr	Pro	Tyr	Lys 345
Thr	Asp	Gly	Ile	Thr 350	Val	Val								

<210> 506

<212> DNA

<400> 506

tctgattggt gaatggtgaa ggtgcctgtc taacttttct gtaaaaagaa 100

ggacaagaca tgactgtgat gaggagctgc tttcgccaat ttaacaccaa 200

gaagaattga ggctgcttgg gaggaaggcc aggaggaaca cgagactgag 250  
 agatgaattt tcaacagagg ctgcaaagcc tgtggacttt agccagaccc 300  
 ttctgccctc ctttgctggc gacagcctct caaatgcaga tggttgtgct 350  
 cccttgcttg ggttttacc tgcttctctg gagccaggta tcaggggccc 400  
 agggccaaga attccacttt gggccctgcc aagtgaaggg ggttgttccc 450  
 cagaaactgt gggaagcctt ctgggctgtg aaagacacta tgcaagctca 500  
 ggataacatc acgagtgcct ggctgctgca gcaggagggt ctgcagaacg 550  
 tctcggtatg tgagagctgt taccttgtcc acaccctgct ggagttctac 600  
 ttgaaaactg ttttcaaaaa ccaccacaat agaacagttg aagtcaggac 650  
 tctgaagtca ttctctactc tggccaacaa ctttgttctc atcgtgtcac 700  
 aactgcaacc cagtcaagaa aatgagatgt tttccatcag agacagtgca 750  
 cacaggcggg ttctgctatt ccggagagca ttcaaacagt tggacgtaga 800  
 agcagctctg accaaagccc ttggggaagt ggacattctt ctgacctgga 850  
 tgcagaaatt ctacaagctc tgaatgtcta gaccaggacc tccttcccc 900  
 tggcactggg ttgttccctg tgtcatttca aacagtctcc cttcctatgc 950  
 tgttactgga acacttcacg cccttggcca tgggtcccat tcttggccca 1000  
 ggattattgt caaagaagtc attctttaag cagcgccagt gacagttagg 1050  
 gaaggtgcct ctggatgctg tgaagagtct acagagaaga ttcttgtatt 1100  
 tattacaact ctatttaatt aatgtcagta tttcaactga agttctattt 1150  
 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200  
 cttctttacc cctcacaatc cttgccacag tgtggggcag tggatgggtg 1250  
 cttagtaagt acttaataaa ctgtggtgct ttttttggcc tgtctttgga 1300  
 ttgttaaaaa acagagaggg atgcttggat gtaaaactga acttcagagc 1350  
 atgaaaatca cactgtcttc tgatatctgc agggacagag cattgggggtg 1400  
 ggggtaaggg gcatctgttt gaaaagtaaa cgataaaatg tggattaaag 1450  
 tgcccagcac aaagcagatc ctcaataaac atttcatttc ccaccacac 1500  
 tcgccagctc accccatcat ccctttccct tgggtgcctc cttttttttt 1550  
 taccctagtc attcttccct aatcttccac ttgagtgtca agctgacctt 1600  
 gctgatgggt acattgcacc tggatgtact atccaatctg tgatgacatt 1650

ccctgctaataaaaagacaacataactccaaaaaa1700

aaaaa1705

<210> 507

<211> 206

<212> PRT

<213> Homo Sapien

<400> 507

Met	Asn	Phe	Gln	Gln	Arg	Leu	Gln	Ser	Leu	Trp	Thr	Leu	Ala	Arg
1				5					10					15

Pro	Phe	Cys	Pro	Pro	Leu	Leu	Ala	Thr	Ala	Ser	Gln	Met	Gln	Met
				20					25					30

Val	Val	Leu	Pro	Cys	Leu	Gly	Phe	Thr	Leu	Leu	Leu	Trp	Ser	Gln
				35					40					45

Val	Ser	Gly	Ala	Gln	Gly	Gln	Glu	Phe	His	Phe	Gly	Pro	Cys	Gln
				50					55					60

Val	Lys	Gly	Val	Val	Pro	Gln	Lys	Leu	Trp	Glu	Ala	Phe	Trp	Ala
				65					70					75

Val	Lys	Asp	Thr	Met	Gln	Ala	Gln	Asp	Asn	Ile	Thr	Ser	Ala	Arg
				80					85					90

Leu	Leu	Gln	Gln	Glu	Val	Leu	Gln	Asn	Val	Ser	Asp	Ala	Glu	Ser
				95					100					105

Cys	Tyr	Leu	Val	His	Thr	Leu	Leu	Glu	Phe	Tyr	Leu	Lys	Thr	Val
				110					115					120

Phe	Lys	Asn	His	His	Asn	Arg	Thr	Val	Glu	Val	Arg	Thr	Leu	Lys
				125					130					135

Ser	Phe	Ser	Thr	Leu	Ala	Asn	Asn	Phe	Val	Leu	Ile	Val	Ser	Gln
				140					145					150

Leu	Gln	Pro	Ser	Gln	Glu	Asn	Glu	Met	Phe	Ser	Ile	Arg	Asp	Ser
				155					160					165

Ala	His	Arg	Arg	Phe	Leu	Leu	Phe	Arg	Arg	Ala	Phe	Lys	Gln	Leu
				170					175					180

Asp	Val	Glu	Ala	Ala	Leu	Thr	Lys	Ala	Leu	Gly	Glu	Val	Asp	Ile
				185					190					195

Leu	Leu	Thr	Trp	Met	Gln	Lys	Phe	Tyr	Lys	Leu
				200					205	

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

aaggagcagc ccgcaagcac caagtgagag gcatgaagtt acagtgtgtt 50  
 tccctttggc tcttgggtac aatactgata ttgtgctcag tagacaacca 100  
 cggctctcagg agatgtctga tttccacaga catgcaccat atagaagaga 150  
 gtttccaaga aatcaaaaaga gccatccaag ctaaggacac cttcccaa 200  
 gtcactatcc tgtccacatt ggagactctg cagatcatta agcccttaga 250  
 tgtgtgctgc gtgaccaaga acctcctggc gttctacgtg gacaggggtg 300  
 tcaaggatca tcaggagcca aacccccaaa tcttgagaaa aatcagcagc 350  
 attgccaact ctttcctcta catgcagaaa actctgcggc aatgtcagga 400  
 acagaggcag tgtcactgca ggcaggaagc caccaatgcc accagagtca 450  
 tccatgacaa ctatgatcag ctggaggtcc acgctgctgc cattaaatcc 500  
 ctgggagagc tcgacgtctt tctagcctgg attaataaga atcatgaagt 550  
 aatgtttctca gcttgatgac aaggaacctg tatagtgatc cagggatgaa 600  
 cacccttctg gcggtttact gtgggagaca gccaccttg aaggggaagg 650  
 agatggggaa ggcccccttg agctgaaagt cccactggct ggcctcaggc 700  
 tgtcttattc cgcttgaaaa taggcaaaaa gtctactgtg gtatttgtaa 750  
 taaactctat ctgctgaaag ggcctgcagg ccatcctggg agtaaagggc 800  
 tgcttccca tctaatttat tgtaaagtca tatagtccat gtctgtgatg 850  
 tgagccaagt gatatcctgt agtacacatt gtactgagtg gtttttctga 900  
 ataaattcca tattttacct atga 924

<210> 509

<211> 177

<212> PRT

<213> Homo Sapien

<400> 509

Met	Lys	Leu	Gln	Cys	Val	Ser	Leu	Trp	Leu	Leu	Gly	Thr	Ile	Leu
1				5					10					15
Ile	Leu	Cys	Ser	Val	Asp	Asn	His	Gly	Leu	Arg	Arg	Cys	Leu	Ile
				20					25					30
Ser	Thr	Asp	Met	His	His	Ile	Glu	Glu	Ser	Phe	Gln	Glu	Ile	Lys
				35					40					45
Arg	Ala	Ile	Gln	Ala	Lys	Asp	Thr	Phe	Pro	Asn	Val	Thr	Ile	Leu
				50					55					60
Ser	Thr	Leu	Glu	Thr	Leu	Gln	Ile	Ile	Lys	Pro	Leu	Asp	Val	Cys
				65					70					75

**THE UNIVERSITY OF CHICAGO**

<211> 996

<213> Homo Sapien

cccgtgccaa	gagtgcagta	agtaccgcct	atagagtcta	taggcccact	50
tggcttcggt	agaacgcggc	tacaattaat	acataacctt	atgtatcata	100
cacatacgat	ttaggtgaca	ctatagaata	acatccactt	tgcctttctc	150
tccacaggtg	tccactccca	ggtcceaactg	cacctcggtt	ctatcgataa	200
tctcagcacc	agccactcag	agcagggcac	gatgttgggg	gcccgcctca	250
ggctctgggt	ctgtgccttg	tgcagcgtct	gcagcatgag	cgctcctcaga	300
gcctatccca	atgcctcccc	actgctcggc	tccagctggg	gtggcctgat	350
ccacctgtac	acagccacag	ccaggaacag	ctaccacctg	cagatccaca	400
agaatggcca	tgtggatggc	gcaccccatc	agaccatcta	cagtgccttg	450
atgatcagat	cagaggatgc	tggctttgtg	gtgattacag	gtgtgatgag	500
cagaagatac	ctctgcatgg	atttcagagg	caacattttt	ggatcacact	550
atttcgacc	ggagaactgc	aggttccaac	accagacgct	ggaaaacggg	600
tacgacgtct	accactctcc	tcagtatcac	ttcctgggtca	gtctgggccc	650
ggcgaagaga	gccttcctgc	caggcatgaa	cccacccccg	tactcccagt	700
tcctgtccc	gaggaacgag	atccccctaa	ttcacttcaa	cacccccata	750
ccacggcggc	acaccgggag	cgccgaggac	gactcggagc	gggaccccct	800

gaacgtgctg aagccccggg cccggatgac cccggccccg gcctcctgtt 850  
cacaggagct cccgagcgcc gaggacaaca gcccgatggc cagtgacca 900  
ttaggggtgg tcaggggagg tcgagtgaac acgcacgctg ggggaacggg 950  
cccggaaggc tgccgcccct tcgccaagtt catctagggt cgctgg 996

<210> 511  
<211> 251  
<212> PRT  
<213> Homo Sapien

<400> 511  
Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser  
1 5 10 15  
Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
20 25 30  
Leu Leu Gly Ser Ser Trp Gly Gly Leu Ile His Leu Tyr Thr Ala  
35 40 45  
Thr Ala Arg Asn Ser Tyr His Leu Gln Ile His Lys Asn Gly His  
50 55 60  
Val Asp Gly Ala Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile  
65 70 75  
Arg Ser Glu Asp Ala Gly Phe Val Val Ile Thr Gly Val Met Ser  
80 85 90  
Arg Arg Tyr Leu Cys Met Asp Phe Arg Gly Asn Ile Phe Gly Ser  
95 100 105  
His Tyr Phe Asp Pro Glu Asn Cys Arg Phe Gln His Gln Thr Leu  
110 115 120  
Glu Asn Gly Tyr Asp Val Tyr His Ser Pro Gln Tyr His Phe Leu  
125 130 135  
Val Ser Leu Gly Arg Ala Lys Arg Ala Phe Leu Pro Gly Met Asn  
140 145 150  
Pro Pro Pro Tyr Ser Gln Phe Leu Ser Arg Arg Asn Glu Ile Pro  
155 160 165  
Leu Ile His Phe Asn Thr Pro Ile Pro Arg Arg His Thr Arg Ser  
170 175 180  
Ala Glu Asp Asp Ser Glu Arg Asp Pro Leu Asn Val Leu Lys Pro  
185 190 195  
Arg Ala Arg Met Thr Pro Ala Pro Ala Ser Cys Ser Gln Glu Leu  
200 205 210  
Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser Asp Pro Leu Gly  
215 220 225

Val Val Arg Gly Gly Arg Val Asn Thr His Ala Gly Gly Thr Gly  
230 235 240

Pro Glu Gly Cys Arg Pro Phe Ala Lys Phe Ile  
245 250

<210> 512  
<211> 2015  
<212> DNA  
<213> Homo Sapien

<400> 512  
ggaaaaggta cccgcgagag acagccagca gttctgtgga gcagcgggtgg 50  
ccggctagga tgggctgtct ctgggggtctg gctctgcccc ttttcttctt 100  
ctgctgggag gttgggggtct ctgggagctc tgcaggcccc agcacccgca 150  
gagcagacac tgcgatgaca acggacgaca cagaagtgcc cgctatgact 200  
ctagcaccgg gccacgccgc tctggaaact caaacgctga gcgctgagac 250  
ctcttctagg gcctcaaccc cagccggccc cattccagaa gcagagacca 300  
ggggagccaa gagaatttcc cctgcaagag agaccaggag tttcacaaaa 350  
acatctccca acttcatggt gctgatcgcc acctccgtgg agacatcagc 400  
cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450  
caggcagtga tcccaggaa gccatctttg acaccctttg caccgatgac 500  
agctctgaag aggcaaagac actcacaatg gacatattga cattgggtca 550  
cacctccaca gaagctaagg gcctgtcctc agagagcagt gcctcttccg 600  
acggccccca tccagtcac accccgtcac gggcctcaga gagcagcgcc 650  
tcttccgacg gccccatcc agtcatcacc ccgtcacggg cctcagagag 700  
cagcgctct tccgacggcc cccatccagt catcaccccg tcatgggtccc 750  
cgggatctga tgtcactctc ctcgctgaag ccctggtgac tgtcaciaaac 800  
atcgaggtta ttaattgcag catcacagaa atagaaacaa caacttccag 850  
catccctggg gcctcagaca tagatctcat cccacggaa ggggtgaagg 900  
cctcgtccac ctccgatcca ccagctctgc ctgactccac tgaagcaaaa 950  
ccacacatca ctgaggtcac agcctctgcc gagaccctgt ccacagccgg 1000  
caccacagag tcagctgcac ctcatgccac ggttgggacc ccaactccca 1050  
ctaacagcgc cacagaaaga gaagtgcag caccggggc cagaccctc 1100  
agtggagctc tggtcacagt tagcaggaat cccctggaag aaacctcagc 1150

cctctctgtt gagacaccaa gttacgtcaa agtctcagga gcagctccgg 1200  
 tctccataga ggctgggtca gcagtgggca aaacaacttc ctttgctggg 1250  
 agctctgctt cctcctacag cccctcggaa gccgccctca agaacttcac 1300  
 cccttcagag acaccgacca tggacatcgc aaccaagggg cccttcccca 1350  
 ccagcagggga ccctcttcct tctgtccctc cgactacaac caacagcagc 1400  
 cgaggggacga acagcacctt agccaagatc acaacctcag cgaagaccac 1450  
 gatgaagccc caacagccac gcccacgact gcccgacga ggccgaccac 1500  
 agacgtgagt gcaggtgaaa atggaggttt cctcctcctg cggctgagt 1550  
 tggcttcccc ggaagacctc actgacccca gagtggcaga aaggctgatg 1600  
 cagcagctcc accgggaact ccacgccac gcgcctcact tccaggtctc 1650  
 cttactgcgt gtcaggagag gctaacggac atcagctgca gccaggcatg 1700  
 tcccgtatgc caaaagaggg tgctgccctt agcctgggcc cccaccgaca 1750  
 gactgcagct gcgttactgt gctgagaggt acccagaagg ttcccatgaa 1800  
 gggcagcatg tccaagcccc taaccccaga tgtggcaaca ggaccctcgc 1850  
 tcacatccac cggagtgtat gtatggggag gggcttcacc tgttcccaga 1900  
 ggtgtccttg gactcacctt ggcacatgtt ctgtgtttca gtaaagagag 1950  
 acctgatcac ccattctgtg gttccatcc tgcattaaaa ttcactcagt 2000  
 gtggcccaaa aaaaa 2015

<210> 513  
 <211> 482  
 <212> PRT  
 <213> Homo Sapien

<400> 513  
 Met Gly Cys Leu Trp Gly Leu Ala Leu Pro Leu Phe Phe Phe Cys  
 1 5 10 15  
 Trp Glu Val Gly Val Ser Gly Ser Ser Ala Gly Pro Ser Thr Arg  
 20 25 30  
 Arg Ala Asp Thr Ala Met Thr Thr Asp Asp Thr Glu Val Pro Ala  
 35 40 45  
 Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu  
 50 55 60  
 Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile  
 65 70 75  
 Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg



80										85					90				
Glu	Thr	Arg	Ser	Phe	Thr	Lys	Thr	Ser	Pro	Asn	Phe	Met	Val	Leu					
				95					100					105					
Ile	Ala	Thr	Ser	Val	Glu	Thr	Ser	Ala	Ala	Ser	Gly	Ser	Pro	Glu					
				110					115					120					
Gly	Ala	Gly	Met	Thr	Thr	Val	Gln	Thr	Ile	Thr	Gly	Ser	Asp	Pro					
				125					130					135					
Glu	Glu	Ala	Ile	Phe	Asp	Thr	Leu	Cys	Thr	Asp	Asp	Ser	Ser	Glu					
				140					145					150					
Glu	Ala	Lys	Thr	Leu	Thr	Met	Asp	Ile	Leu	Thr	Leu	Ala	His	Thr					
				155					160					165					
Ser	Thr	Glu	Ala	Lys	Gly	Leu	Ser	Ser	Glu	Ser	Ser	Ala	Ser	Ser					
				170					175					180					
Asp	Gly	Pro	His	Pro	Val	Ile	Thr	Pro	Ser	Arg	Ala	Ser	Glu	Ser					
				185					190					195					
Ser	Ala	Ser	Ser	Asp	Gly	Pro	His	Pro	Val	Ile	Thr	Pro	Ser	Arg					
				200					205					210					
Ala	Ser	Glu	Ser	Ser	Ala	Ser	Ser	Asp	Gly	Pro	His	Pro	Val	Ile					
				215					220					225					
Thr	Pro	Ser	Trp	Ser	Pro	Gly	Ser	Asp	Val	Thr	Leu	Leu	Ala	Glu					
				230					235					240					
Ala	Leu	Val	Thr	Val	Thr	Asn	Ile	Glu	Val	Ile	Asn	Cys	Ser	Ile					
				245					250					255					
Thr	Glu	Ile	Glu	Thr	Thr	Thr	Ser	Ser	Ile	Pro	Gly	Ala	Ser	Asp					
				260					265					270					
Ile	Asp	Leu	Ile	Pro	Thr	Glu	Gly	Val	Lys	Ala	Ser	Ser	Thr	Ser					
				275					280					285					
Asp	Pro	Pro	Ala	Leu	Pro	Asp	Ser	Thr	Glu	Ala	Lys	Pro	His	Ile					
				290					295					300					
Thr	Glu	Val	Thr	Ala	Ser	Ala	Glu	Thr	Leu	Ser	Thr	Ala	Gly	Thr					
				305					310					315					
Thr	Glu	Ser	Ala	Ala	Pro	His	Ala	Thr	Val	Gly	Thr	Pro	Leu	Pro					
				320					325					330					
Thr	Asn	Ser	Ala	Thr	Glu	Arg	Glu	Val	Thr	Ala	Pro	Gly	Ala	Thr					
				335					340					345					
Thr	Leu	Ser	Gly	Ala	Leu	Val	Thr	Val	Ser	Arg	Asn	Pro	Leu	Glu					
				350					355					360					
Glu	Thr	Ser	Ala	Leu	Ser	Val	Glu	Thr	Pro	Ser	Tyr	Val	Lys	Val					
				365					370					375					

[illegible]

```
<210> 514
<211> 2284
<212> DNA
<213> Homo Sapien
```

438

09941992.092201

attattcaaa gccaccgat atctcatgga gagacacact ttctcagaag 750  
tttggatcct cagatcacct ggagaaacta tttaagatgg atgaagcaag 800  
tgcccagctc cttgcttata aggaaaaagg ccattctcag agttcacaat 850  
tttctctga tcaagaaata gctcatctgc tgcctgaaaa tgtgagtgcg 900  
ctcccagcta cgggtggcagt tgcttctcca cataccacct cggctactcc 950  
aaagcccgcc acccttctac ccaccaatgc ttcagtgaca ccttctggga 1000  
cttcccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050  
tctcagcctc ccacgaccct catttctaca gtttttacac gggctgcggc 1100  
tactctcaa gcaatggcta caacagcagt tctgactacc acctttcagg 1150  
cacctacgga ctcgaaaggc agcttagaaa ccataccgtt tacagaaatc 1200  
tccaacttaa ctttgaacac agggaatgtg tataacccta ctgcactttc 1250  
tatgtcaaat gtggagtctt ccactatgaa taaaactgct tcttggaag 1300  
gtagggaggc cagtccaggc agttcctccc agggcagtgt tccagaaaat 1350  
cagtacggcc ttccatttga aaaatggctt cttatcgggt ccctgctctt 1400  
tggtgtcctg ttcttggtga taggcctcgt cctcctgggt agaatccttt 1450  
cggaatcact ccgaggaaa cgttactcaa gactggatta tttgatcaat 1500  
gggatctatg tggacatcta aggatggaac tcggtgtctc ttaattcatt 1550  
tagtaaccag aagcccaaat gcaatgagtt tctgctgact tgctagtctt 1600  
agcaggaggt tgtattttga agacaggaaa atgccccctt ctgctttcct 1650  
tttttttttt ggagacagag tcttgctctg ttgcccaggc tggagtgcag 1700  
tagcacgac tcggctctca ccgcaacctc cgtctcctgg gttcaagcga 1750  
ttctcctgcc tcagcctcct aagtatctgg gattacaggc atgtgccacc 1800  
acacctgggt gatttttgta tttttagtag agacgggggt tcaccatggt 1850  
ggtcaggctg gtctcaaact cctgacctag tgatccaccc tcctcggcct 1900  
cccaaagtgc tgggattaca ggcagagcc accacagctg gcccccttct 1950  
gttttatggt tgggttttga gaaggaatga agtggaacc aaattaggta 2000  
attttgggta atctgtctct aaaatattag ctaaaaacaa agctctatgt 2050  
aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcttt 2100  
tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 2150

**09476-09481**

<400> 515														
Met	Phe	Phe	Gly	Gly	Glu	Gly	Ser	Leu	Thr	Tyr	Thr	Leu	Val	Ile
1				5					10					15
Ile	Cys	Phe	Leu	Thr	Leu	Arg	Leu	Ser	Ala	Ser	Gln	Asn	Cys	Leu
				20					25					30
Lys	Lys	Ser	Leu	Glu	Asp	Val	Val	Ile	Asp	Ile	Gln	Ser	Ser	Leu
				35					40					45
Ser	Lys	Gly	Ile	Arg	Gly	Asn	Glu	Pro	Val	Tyr	Thr	Ser	Thr	Gln
				50					55					60
Glu	Asp	Cys	Ile	Asn	Ser	Cys	Cys	Ser	Thr	Lys	Asn	Ile	Ser	Gly
				65					70					75
Asp	Lys	Ala	Cys	Asn	Leu	Met	Ile	Phe	Asp	Thr	Arg	Lys	Thr	Ala
				80					85					90
Arg	Gln	Pro	Asn	Cys	Tyr	Leu	Phe	Phe	Cys	Pro	Asn	Glu	Glu	Ala
				95					100					105
Cys	Pro	Leu	Lys	Pro	Ala	Lys	Gly	Leu	Met	Ser	Tyr	Arg	Ile	Ile
				110					115					120
Thr	Asp	Phe	Pro	Ser	Leu	Thr	Arg	Asn	Leu	Pro	Ser	Gln	Glu	Leu
				125					130					135
Pro	Gln	Glu	Asp	Ser	Leu	Leu	His	Gly	Gln	Phe	Ser	Gln	Ala	Val
				140					145					150
Thr	Pro	Leu	Ala	His	His	His	Thr	Asp	Tyr	Ser	Lys	Pro	Thr	Asp
				155					160					165
Ile	Ser	Trp	Arg	Asp	Thr	Leu	Ser	Gln	Lys	Phe	Gly	Ser	Ser	Asp
				170					175					180
His	Leu	Glu	Lys	Leu	Phe	Lys	Met	Asp	Glu	Ala	Ser	Ala	Gln	Leu
				185					190					195
Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser	Gln	Phe	Ser
				200					205					210
Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val	Ser	Ala
				215					220					225
Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser	Ala

[illegible]

```
<220>
<221> unsure
<222> 1869, 1887
<223> unknown base
```

ctgaggggacc accggaagta ctggtgcagg aaggggtggga tcctcttctc 200  
tcgctgctct ggcaccatct atgcagaaga agaaggccag gagacaatga 250  
agggcaggggt gtccatccgt gacagccgcc aggagctctc gctcattgtg 300  
acctgtgga acctcaccct gcaagacgct ggggagtact ggtgtgggg 350  
cgaaaaacgg ggccccgatg agtctttact gatctctctg ttcgtctttc 400  
caggacctg ctgtcctccc tccccctctc ccacctcca gcctctggct 450  
acaacacgcc tgcagcccaa ggcaaaagct cagcaaacc agccccagg 500  
attgacttct cctgggctct acccggcagc caccacagcc aagcagggga 550  
agacaggggc tgaggcccct ccattgccag ggacttcca gtacgggcac 600  
gaaaggactt ctcagtacac aggaacctct cctcaccag cgacctctcc 650  
tcctgcaggg agtccccgcc ccccatgca gctggactcc acctcagcag 700  
aggacaccag tccagctctc agcagtggca gctctaagcc caggggtgtcc 750  
atccccgatg tccgcatact ggccccagtc ctggtgctgc tgagccttct 800  
gtcagccgca ggccctgatc cttctgcag ccacctgctc ctgtggagaa 850  
aggaagctca acaggccacg gagacacaga ggaacgagaa gttctggctc 900  
tcacgcttga ctgcggagga aaaggaagcc ccttcccagg cccctgaggg 950  
ggacgtgatc tcgatgcctc ccctccacac atctgaggag gagctgggct 1000  
tctcgaagtt tgtctcagcg tagggcagga ggccctcctg gccaggccag 1050  
cagtgaagca gtatggctgg ctggatcagc accgattccc gaaagctttc 1100  
cacctcagcc tcagagtcca gctgcccgga ctccagggct ctccccacc 1150  
tccccaggct ctctcttgc atgttccagc ctgacctaga agcgtttgtc 1200  
agccctggag ccagagcgg tggccttgc cttccggctg gagactggga 1250  
catccctgat aggttcacat ccctgggcag agtaccaggc tgctgaccct 1300  
cagcagggcc agacaaggct cagtggatct ggtctgagtt tcaatctgcc 1350  
aggaactcct gggcctcatg ccagtgctg gacctgctt tcctccact 1400  
ccagacccca ccttgtcttc cctccctggc gtctcagac ttagtccac 1450  
ggtctcctgc atcagctggg gatgaagagg agcatgctgg ggtgagactg 1500  
ggattctggc ttctctttga accacctgca tccagccctt caggaagcct 1550  
gtgaaaaacg tgattcctgg cccaccaag accacacaaa accatctctg 1600

**SECRET**

<211> 332

<213> Homo Sapien

Met Arg Leu Leu Val Leu Leu Trp Gly Cys Leu Leu Leu Pro Gly  
1 5 10 15

Tyr Glu Ala Leu Glu Gly Pro Glu Glu Ile Ser Gly Phe Glu Gly  
20 25 30

[illegible]



Ser Ala

<210> 518  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 518  
ccctgcagtg cacctacagg gaag 24

<210> 519  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 519  
ctgtcttccc ctgcttggct gtgg 24

<210> 520  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 520  
gggtgcaggaa ggggtgggatc ctcttctctc gctgctctgg ccacatc 47

<210> 521  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 521  
ccagtgcaca gcaggcaacg aagc 24

<210> 522  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 522

actaggctgt atgcctgggt gggc 24

<210> 523

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 523

gtatgtacaa agcatcggca tggttgcagg agcagtgaca ggc 43

<210> 524

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 524

aatctcagca ccagccactc agagca 26

<210> 525

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 525

gttaaagagg gtgcccttcc agcga 25

<210> 526

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 526

tatcccaatg cctccccact gctc 24

<210> 527

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 527

gatgaacttg gcgaaggggc ggca 24

<210> 528

<211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 528  
 agggaggatt atccttgacc tttgaagacc 30  
  
 <210> 529  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 529  
 gaagcaagtg cccagctc 18  
  
 <210> 530  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 530  
 cgggtccctg ctcttttg 18  
  
 <210> 531  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 531  
 caccgtagct gggagcgac tcac 24  
  
 <210> 532  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 532  
 agtgtaagtc aagctccc 18